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Original Articles.

THE CURE OF SQUINT.*

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I. The Ætiology of Squint.

Squint is the disorganisation of the mechanism which works the two eyes together, there is with its onset a loss of that most perfect and valuable of all the functions of the human eyes—binocular or stereoscopic vision.

In this paper it is proposed to limit attention to the most frequent form of squint, definite disassociation of the eyes, and as it appears in children. This type accounts for by far the greater number of cases. There are other and most interesting varieties of squint, due to disease, to accident, and the latent squints, but to include these in the present paper would be to limit the space due to the more frequent and therefore the more important forms.

Incidence.

The frequency with which squint appears in children can best be judged by examining the scholars of any large school. In one good class London school of 1007 children there were no less than 18 squinters; amongst 374 infants there were 7, 4 girls and 3 boys; amongst 363 girls there were 7, and 370 boys accounted for 4. The incidence is therefore close on 2 per cent., and girls are affected nearly twice as frequently as boys. The figures of the Belgrave Hospital for Children show how large a proportion of squinters there are amongst those brought on account of some difficulty with their eyes other than external disease. Amongst 1400 children examined because "they could not see properly" no less than 199 were squinters, indeed all the younger children were squinters:

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* A paper read before the West London Medico-Chirurgical Society.

Age (years)	4	5	6	7	8	9	10	11	12	13	14
Per cent.	100	100	63·2	32	7·6	17·7	5·5	5·2	7·5	2·7	5·4

Amongst these 199 cases the great majority were of the fixed type, with one eye turned towards the nose, all but 9 were primary squints, *i. e.*, not associated with actual disease of the eye. The figures are as follows:

Convergent,	fixed	166
„	alternating	16
„	with scarred cornea	6
„	with disease of fundus	1
„	congenital defect	1
„	brain disease	1
Divergent		8

Æsthetics.

The ugliness of squint is patent. It is probable that the "evil eye," for which many hapless old women were harried to their death on the suspicion of witch-craft in "the good old days," was no more than a common squint, a "cast" in the eye, or "bossing," as it is called in many parts of the country to this day. And bossing had an evil significance; of persons it indicated a despicable and worthless character, usually of decrepid age. "I speak to you, auld Bossis, of perditioun," Lyndsay, 'Works' (ed. 1592). Not only was squint thought to be of evil significance, but the defect itself was considered the work of evil spirits. In "King Lear" we find the following in the scene on the heath at night: "This is the foul fiend Flibbertigibbet: he begins at curfew, and walks till the first cock; he gives the web and the pin, squints the eye, and makes the hare-lip; mildews the white wheat, and hurts the poor creature of the earth."

In nearer times than those in which Shakespeare wrote a squint has been the cause of slanderous accusations against quite harmless individuals; in rural districts the squinter has been proverbially a thief, somewhat after the kind of "Taffy" in the children rhyme. There is even something of this feeling still existent to-day, and in more than one case the man in business has desired to have the deformity of squint corrected by operation, "because he found that the people with whom he had dealings seemed to doubt his probity when they noticed the squint!"

Evolution.

In its essence squint is a falling back into a lower state of organisation, so far as the eyes are concerned. Instead of the "eyes right" direct look of the man we get the irregular fixation of the eyes normal to the lower animals. Monocular vision is the normal condition of the lower vertebrates. Who has not seen the movements of the eye of the chameleon? One eye of the creature has been awake when the other has been covered as if asleep, or one has looked forwards whilst the other seemed to look backwards. But that obvious absence of association of the two eyes is no more remarkable than the regular lateral position of the eyes in fishes. Their eyes can by no means work together for they are set on the opposite sides of the head. When we examine the anatomy of the nerves of the fish we find that there are two distinct optic nerves that run quite independently to the two sides of the brain, and there is no connection between them. It is quite otherwise with the eye-nerves of man, the two great eye-nerves meet inside the skull, and join in such a fashion that half the nerve of one eye unites with the corresponding half of the nerve of the other eye; so that the brain receives the joint impression of the two images the eyes have gained of the one object looked at. In fishes a complex arrangement would be of no use, their eyes are more in the nature of alarums than organs of perception, for they have other senses wherewith to find their food and detect their foes.

The same holds good of the lower mammalia, *e. g.*, the rabbits. In these animals so fine a faculty as binocular vision would be wasted, their visual perception is practically limited to moving objects. At the least sign of movement in the surrounding objects they are alert and run; whereas if a man will remain quite motionless the rabbits will go on feeding all unconscious of his near presence, provided the wind be in a favourable direction.

There appears to be some attempt at two-eyed vision in the higher hunting mammalia. The domestic cat seems to have some such power, for it is noticeable that the eyes work together in examining near objects, and that a cat is able to " handle " an object with great nicety, much more so than can the dog. With this development of the eyes in hunting animals there is a large increase in the area on the surface of the brain where is the active grey matter which belongs to the sense of sight. This area is small in the hunted animals, but large in the hunting animals.

In man the development is complete. The whole of his face and the position of his body has been remodelled to secure this great object. Man stands erect to the view ; the face is flattened so that the eyes may come well to the front, in which position alone they can work together ; the obstructing snout has gone, and with it some of the keen sense of smell that belongs to the lower animals. Man's eyes now work on parallel axes, and they can be turned in towards each other so as jointly to examine near objects. There is now constant association of the two eyes, and this gives binocular vision, and with that the ability to determine the size, the bulk, and the distance of any object. This judgment is effected by an unconscious, but trained, perception of the nerve impulses required by the muscles of the eyeballs in moving the eyes from one position to the other as a man looks first at one and then at another object. Binocular vision is something that the unfortunate person who has not the faculty cannot understand ; he therefore cannot be brought to realise what is missed. It is something like colour vision ; to the normal person red is a glorious colour, to the colour-blind it is no more than drab, and no power can enable such a person to understand the raptures of the artistic over fine colour effects, so it is with tone-deafness.

With the growth of this power of the eyes, there has been a corresponding development of the brain in the area where the visual centres are situated. In man these occupy an enormous area as compared with the hunted animals, and even when compared with the areas of the hunting animals. Man is, therefore, easily first as the " mighty hunter before the Lord." If it were not for this great cerebral development there never could have been that association of hand and eye that make the artificer, the artist, and the musician.

Control.

The brain is the real factor in the production and maintenance of binocular vision. It is the brain that keeps the eye in control.

This control goes by the name of the "fusion faculty"; the term indicates the power of the brain to fuse into one satisfactory picture the two divers images seen by the two eyes. If we think for a moment it will be obvious that when we look at a given object the two eyes do not see exactly the same view, for they are differently related in point of space to each other. The right eye is somewhat to the right and therefore gets a better view of the right side of things, the left eye is situated rather to the left and gets a better view of the left side of things. The width between the two eyes is not great, no more than four inches in the most widely-set eyes, but that little difference makes all the difference to the impression that is received by the eyes. The two slightly divers retinal pictures are transmitted to the brain, the cells of the grey matter of the brain fuse them together or overlap the two impressions so that they become one, and the slight difference of the two impressions gives all that feeling of solidity that we perceive in the view, whether it be of trees, of statuary, or of persons.

Binocular vision is not present at birth. It comes into play about the third or fourth week of life; but then it is weak and tottering, and just as uncertain as a child beginning to walk. A very little irritation, even a pin-prick, will cause the eyes to squint. Pain, the convulsions of indigestion, the irritation of worms, all will upset the brain control.

The observation of the ease with which squint may be induced is very old. Bacon writes: "Some can squint when they will, and children set upon a table with a candle behind them, both eyes will move outwards, to seek the light, and so induce squinting." A very similar warning is to be heard even nowadays in many nurseries; the elder children are forbidden to look at the baby from over the head of the cradle, lest the baby in trying to see them should develop a squint. There is even more interesting observation in the famous diary of Pepys. He writes: "At supper the three doctors of physic again in my cabin, when I put Dr. Scarborough in mind of what I heard him say: that children do, in every day's experience, look several ways with both eyes, till custom teaches them otherwise; and that we do now see but with one eye, our eyes looking in parallel lines."

Once binocular vision is established it is rarely disturbed, but should the control of the brain be weak, a very little ocular or physical disturbance will cause a squint to appear.

The state of the case may be illustrated by a simile. The relation between the two eyes, the muscles of the eyes, the nerves that stimulate the muscles, and the brain that controls the nerves, is very like that between the horses, the traces, the reins, and the driver of a four-in-hand. A good driver will master a bad team. If the driver be bad, even though the team be perfectly matched and the equipment all that could be desired, the fool of a driver will surely run the coach into the ditch at the first bad turn in the road. So with the eyes. There may be an ill-matched pair of eyes, there may be even a muscle defect, but if there be perfect brain control there will be no squint, though there will certainly be all the symptoms of eye-strain. On the other hand, there may be a perfectly matched pair of eyes, and with a muscle equipment that is perfect, yet if there be an imperfect brain control, then at the least difficulty there will be an "overturning of the coach"—the eyes will squint. If the baby be young a pin-prick or the worms will do it. When it is older a mild fever will do it. When it goes to school the first turn of close work will do it. Each of these things are debited with the disaster, but really the fault was with the brain. This is an extreme case; there are some such but happily not many. For the most part squints appear in those who have an error of refraction; there is some brain control, but it is not strong enough to keep the eyes together when the circumstances are adverse. When there is the pin-prick, or the worms, or the fever, or the lessons at school, then the added strain thrown on the brain makes the work too much; it ceases to control the unequal eyes, so that one squints. Squinters rarely or never complain of eye-strain when the squint is established; they have given up the struggle!

Effects of Squint.

It is obvious from the foregoing that it is very important to check the squint at its very onset, for it means the cessation of a very important piece of brain-work, one that has taken eons of time to weld into the brain fibre of man, and the loss of which is something that cannot be measured in vulgar fractions.

There is, however, another reason for dealing with a squint at the earliest possible date. When an eye is turned so that it continually looks in a different direction to the other, the sight of the turned or squinting eye is lost. The eye sees nothing. That this should be so is an obvious necessity. If it were otherwise the child would be for ever seeing two objects—two steps, two doors—and the confusion would be distressing, and possibly endanger its life. With a child the connection of the nerves of sight are so lightly joined that the double vision produced by squint may be lost in an hour or so; indeed it is rare to hear of any record of such a difficulty from the parents or nurses of these children, except when the squint is of sudden onset, as in the case of accident, falls, and the like.

If a squint be neglected the squinting eye may become completely blind for all the finer purposes of the eye. It will no longer be able to see letters or recognise faces; it may even lose the power of fixation. Such a change as this in an eye means the loss of an eye to all intent and purposes, and it is a serious thing to begin life with such a handicap. It is a handicap that makes it impossible for the child in later years to enter most of the public services.

Popular Fallacies.

There is a popular idea that children "grow out of squint." There is some truth in this idea. Many a very young child has been seen to squint when it is ill. Irritation may make it squint, but when the irritation is withdrawn the squint will disappear. These are temporary cases. Then there are children who grow up with a squint, and when they are well on through their teens, at the time of puberty, the eyes of a few of them will get straighter, or almost straight, and the squint will be noticed to be bad only when they are tired and in the evening. The temporary squint of the infant does no harm. But then it is a warning that there may exist a weak brain control of the eyes, and a hint to be watchful when the child goes to school or is attacked by fever. The case of the children who grow up with squint is very different. Even though their eyes should come straight they never recover the effects of the squint. They have lost their precious faculty of binocular vision, and the sight of the eye that was crossed is gone for all practical purposes; it is reduced to the level of a rabbit's eye; it has a field of vision, but no macula, and no fine visual acuity.

Heredity.

In some cases of squint there is a strong hereditary factor. The disorder may have existed in many generations of one family. The squint itself is not inherited, only the conditions that favour its onset. In some rare cases, however, the squint is associated with definite failure of development of certain muscles of the eye through several generations; in these cases it may be said that there is a true inheritance of squint.

(*To be continued.*)

OBSERVATIONS ON ELEVEN CASES OF CEREBRO-SPINAL FEVER.

By Edward Cecil Williams, M.B.Cantab., M.R.C.P.Lond.,
Physician to the Royal Hospital for Sick Children, Bristol.

During the outbreak of cerebro-spinal fever which occurred in Bristol during the last quarter of 1914 and the first six months of 1915, eleven cases were admitted into the Bristol Children's Hospital, in all of which the diagnosis was confirmed bacteriologically after lumbar puncture. Of the eleven cases admitted, seven made a good recovery and four died. The cases varied very much in the intensity of their nervous symptoms; in only three (Cases 3, 4, 7) were they, prior to admission, sufficiently pronounced to arouse the suspicion of meningitis; in two (Cases 1 and 9) a diagnosis of rheumatism was made, whereas one child (Case 10) was sent in as a suspected case of ptomaine poisoning. Vomiting and constipation was the diagnosis in two others (Cases 2 and 11). One infant (Case 5), admitted for diarrhœa and vomiting, developed broncho-pneumonia and later cerebro-spinal fever; one boy (Case 6) was sent in as pneumonia, and one (Case 8) was sent in undiagnosed. In Case 1 it was not for two or three weeks after admission that a slight Kernig's sign first suggested the advisability of lumbar puncture and an examination of the cerebro-spinal fluid. The symptoms up to that time suggested some unknown source of infection, examination of blood, urine, and fæces failing to give any clue as to the nature of the disease. The case was in fact a good example of the mild septicæmic variety of the disease, in which the nervous symptoms were in abeyance, and emphasises the great necessity for a thorough routine examination of all the various systems, if you are not going to be led astray.

Nervous system.—Headache and vomiting were present in practically all these cases to a greater or less extent, but soon passed off in those which got well, only persisting in the unfavourable cases. Persistent head retraction or retraction occurring during the later stages of the disease, was an unfavourable sign. The knee-jerks were variable, in some cases they were actually exaggerated, in others they were absent, but tended to return as the patient got better. The absence of the abdominal reflex occurred only in the worst cases (it was absent in all the fatal cases). The loss of this reflex indicated that there was probably a meningo-myelitis of the lower dorsal segments of the cord; Kernig's sign was present in every one of the cases. Optic neuritis was present in five cases; in one of the fatal cases it went on to complete atrophy. Irritability was marked in the more serious cases, the children lying curled up in bed, objecting to being moved or having anything done for them. They appeared to experience pain, and were very sensitive of any cold or draughts. This condition was probably due to inflammation of the nerve roots of the spinal nerves; at the autopsy on one of the fatal cases pus was observed tracking inside the sheath of the intercostal nerves. Insomnia was another troublesome symptom in the severe cases. Two cases, girls (Cases 3 and 11), were wildly delirious at times; one recovered, the other died. In the fatal cases, spasticity and tetany were marked towards the end, and in one of them (Case 7) there was retention of urine. Post mortem there were marked inflammation of the meninges and pus over the lumbar enlargement of the cord.

Cerebro-spinal fluid.—The fluid was in all cases more or less turbid; in some cases it was greenish-yellow in colour. It has been our experience that, in the cases which tended to recover, the fluid was generally under pressure. The fluid contained no reducing agent. In certain unfavourable cases the fluid showed a tendency to clot, thus rendering its removal almost impossible.

Microscopically, the predominant cell was the polymorphonuclear; in the milder cases these cells were well preserved, and consequently the organisms were mainly intra-cellular; whereas in the more severe cases many of the cells had a tendency to burst, and consequently the organisms were more extra-cellular. In the cases which recovered, the cerebro-spinal fluid, after two or three injections of serum, became much clearer, the cells were fewer and better preserved, and the organisms also were fewer and more inclined to be intra-cellular. There were certain stages, both in mild and severe cases, of infection, where the mononuclears might equal, or even exceed, the polynuclears in a film. Endothelial cells were common in cases of mild infection.

Eye symptoms.—Irido-cyclitis was well marked in two cases, one of which (Case 1) recovered. My colleague, Mr. Arthur Fells, who kindly undertook the treatment of the eye condition, reports: "When I first saw the child she was suffering from a subacute irido-cyclitis; the conjunctival injection subsided, and about a week later, when the pupil was fully under atropine—a condition that was only slowly brought about—a large mass of white fluffy exudate was seen lying in the vitreous just behind the lens on the nasal side. It was easily visible to ordinary inspection, without the use of oblique illumination or ophthalmoscope. Vision was reduced to P.L. The

No.	Sex.	Age.	In hospital.	Outside diagnosis.	Nervous symptoms.	Rash.	Cerebro-spinal fluid.	Result.
1	F.	11 yrs.	Nov. the 13th, '14, to Feb. the 9th, '15	? Rheumatism	Headache; vomiting; eye symptoms; later, Kernig	None	Slight turbidity; few organisms; cells well preserved; organisms present	Recovered.
2	M.	$2\frac{7}{12}$ yrs.	Jan. the 21st to Feb. the 19th, '15	Mother brought child up for constipation, condition diagnosed on admission	Vomiting; Kernig; no knee-jerks; no abdominal reflex; later, tremor, rigidity, coma; discs blurred	Slight erythematous rash, face, chest, and arm	Thick; a general tendency to clot; organisms present	Died.
3	F.	11 yrs.	Jan. the 31st to Feb. the 17th, '15	Meningitis (unspecified)	Rigor; vomiting; head retraction; knee-jerks +; no abdominal reflex; limbs rigid; insomnia; delirium; right disc not seen; no red reflex; left disc more and more blurred; definite optic neuritis	Hæmorrhagic	Turbid, not under pressure, became more and more difficult to puncture; few organisms found	Died, cardiac failure.
4	M.	9 yrs.	Feb. the 4th to March the 6th, '15	Tuberculous meningitis	Head retraction; delirium; vomiting during first 24 hours; knee-jerks present; abdominal reflex present; Kernig; rapid disappearance of nervous symptoms; optic neuritis, which soon cleared up	None	Turbid, soon cleared up; organisms present	Recovered.
5	F.	9 mths.	Feb. the 8th to March the 7th, '15	Diarrhœa and vomiting	Feb. the 25th.—Vomiting and green stools; head retraction; squint; Kernig; rigidity; wasting	,,	Turbid; under pressure; slightly greenish; organisms present	Died.

6	M.	9 yrs.	March the 6th to April the 7th, '15	Pneumonia	Vomiting; headache; slight retraction of head; abdominal reflex present; Kernig; knee-jerks absent, but slowly returned; slight optic neuritis	,,	Slight turbid, soon cleared up, and under pressure; organisms	Recovered.
7	M.	3 yrs.	March the 11th to May the 18th, '15	Meningitis	Headache; delirium; vomiting; no knee-jerks; no abdominal reflex; Kernig; later, convulsions, tetany, optic neuritis, passing to atrophy.	Later petechiæ over abdomen	Turbid; under pressure; great tendency to clot; punctured high at end; meningococci present	Died.
8	M.	2 yrs.	March the 18th to May the 21st, '15	—	Very irritable; marked head retraction; no abdominal reflex; no knee-jerks, present later; Kernig	None	Thick greenish fluid; under pressure; organisms	Recovered.
9	M.	7 yrs.	Apr. the 3rd, '14, to June the 29th, '15	Rheumatism	Vomiting; epistaxis; abdominal reflex present; knee-jerks absent; Kernig	,,	Turbid; under pressure; organisms	,,
10	M.	2½ yrs.	May the 28th to July the 8th, '15	? Ptomaine poisoning	Headache; head retraction; squint; abdominal reflex present; Kernig	Purple spots on legs	Do.	,,
11	F.	9 yrs.	June the 7th to July the 19th, '15	Vomiting	Headache; vomiting; retraction; delirious; knee-jerks present + +; pupils sluggish; abdominal reflex present	None	Turbid; under pressure; meningococci present	,,

mass of exudate slowly absorbed till no trace of it could be seen, and vision steadily improved till the child could read type equivalent to J. 8. As regards treatment, the eye was kept under the influence of atropine and pot. iod. was given ; but it was after the administration of anti-meningococcus serum that the improvement in the eye took place. No local injections were given ; but I have no doubt but that the improvement in the eye was due to the serum." I regret that the eye from the fatal case was lost before an examination could be made by a skilled pathologist. The condition, however, seemed to be a much more acute variety of the case recorded above.

Rashes.—In all the severer cases the child was collapsed and often cyanosed on admission, but in only four cases (three of them fatal) was there a definite rash ; one (Case 2), on admission, had a hæmorrhagic rash on trunk and limbs, most marked on the latter. One boy (Case 10), who recovered, had purple spots on legs only. Of the two other fatal cases, one had a marked erythematous rash on the face, chest, and upper part of the arms, but none elsewhere ; the other case developed marked mottling and petechiæ during the latter part of his illness.

Treatment.—Lumbar puncture alone is of great therapeutic value, as it tends to decrease intracranial pressure, and so relieves headache, diminishes head retraction, and induces sleep ; in fact, in cases of bad insomnia it is better to do lumbar puncture late at night. The quantity of fluid removed must be determined by the condition of the child ; but under no circumstances is it wise to remove more than 30 c.c. at a time, as dyspnœa and irregularity of the pulse may arise. Lumbar puncture was performed without an anæsthetic, except on three occasions, when, owing to the patient's delirium, it was necessary to administer an anæsthetic. The anæsthetic employed was a mixture of ether and chloroform. It was noticed that the children were more collapsed after puncture under anæsthesia. The quantity of serum injected should be less than the quantity of fluid withdrawn. In the case of children it is not usually desirable to inject more than 10 c.c. at a time. In acute cases puncture may be performed daily, or even twice daily. Serum, however, even in acute cases, should not be injected more than once daily. As the general condition of the child begins to improve, puncture should be performed and serum injected at longer intervals, and when the fluid is clear and free of cells should be omitted altogether. In those cases where removal of fluid, owing to its tendency to clot, has been difficult, puncture has been done higher than usual ; in one of the fatal cases it was performed nearly at the level of the angle of the scapula, without doing any damage to the cord, as was shown post mortem. In these cases where the fluid tends to clot, washing out the spinal canal with normal saline solution has been of no avail ; neither has the administration of sodium citrate internally done any good. In two of the convalescent cases serum rashes occurred. No other phenomena attributable to the serum were observed. The remaining treatment of the disease consists in good nursing and getting the patient to take plenty of nourishment. As a matter of routine, I have given hexamethylene tetramine gr. v in a pint of water daily. Of other drugs, opium in the form of nepenthe is often of great use. I have tried the hypodermic injection of soamin, but have observed no good results from its use. Dr. Nierenstein, of Bristol University, believes that soamin does not penetrate into the cerebro-spinal fluid. He therefore imagines that the beneficial effects which have been noticed might be due to stimulation of metabolism, especially as there is no evidence that organic arsenic compounds have any effect on bacteria. In cases which respond well to treatment, in addition to the loss of turbidity in the cerebro-spinal fluid, there is a gradual fall in temperature to the normal, and also a marked improvement in appetite and a rapid increase in weight; whereas in the fatal cases there is an irregular temperature, which often registers a high level before death, and there is also marked emaciation. As a public health precaution, the M.O.H. required that no convalescent be discharged until two swabs, taken at intervals, from the nasopharynx were found on culture to be free from organisms.

I wish to record my indebtedness to Dr. Naomi Tribe and Dr. Esther Harding for the unremitting attention they bestowed on the cases and the care with which they kept the records.

THE CURE OF SUPPURATIVE MENINGOCOCCAL IRIDO-CHOROIDITIS BY INJECTIONS OF ANTI-MENINGOCOCCAL SERUM INTO THE VITREOUS.*

By Arnold Netter,
Membre de l'Académie de Médecine, Médecin de l'Hôpital Trousseau, Paris.

Suppurative irido-choroiditis is a complication of cerebro-spinal meningitis associated with the development of the meningococcus in the internal membranes of the eye. Its frequency varies in different epidemics. It has been relatively rare in the present epidemic, in which I have found only three cases among several hundred patients.

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* A paper read before the Société di Biologie, Paris, on March the 6th, 1915.

The prognosis is very unfavourable. Within four or five days it almost invariably ends in suppuration and atrophy of the eye with loss of vision. Anti-meningococcal serum treatment has probably reduced the frequency of this complication, but has not diminished its gravity.

One of the writers who have observed the largest number of cases of meningitis and make the best use of serum, Ernest Levy, of Essen, has had nine cases of irido-choroiditis, eight of which were unilateral, among 165 patients under his care. Of the nine children only one retained his vision, though it was extremely impaired. "The child could just perceive the movements of the hand." In the remaining eight cases the blindness of the affected eye was absolute, although the number of injections had never been less than four, and in several cases had been as many as seven. The total amount of serum varied from 58 to 200 c.c.

The resistance of meningococcal irido-choroiditis to intra-spinal serum treatment should not surprise us. It is due to the same causes which are responsible for the failure of anti-meningococcal serum when injected subcutaneously in cerebro-spinal meningitis. Like the arachnoid cavity, the internal media of the eye, which present by the way the greatest anatomical resemblance to it, *are almost completely independent of the general circulation.*

Various substances introduced into the blood do not make their way into either cavity, or only in insignificant amounts. (Paul Römer, Salus, and others have proved that anti-bodies—agglutinins, precipitins, hæmolysins, bacteriolysins, and opsonins—are retained by the ciliary epithelium, and either do not pass at all or only in quite insufficient amount into the vitreous and aqueous humours. The inflammation of the membranes of the eye does not appreciably reduce this faculty of retention, as is proved by the inefficacy of intra-spinal injections of serum.) We have, therefore, been led to think that if to cure cerebro-spinal meningitis it is necessary to inject serum into the spinal cavity, *meningococcal irido-choroiditis should be treated by the intra-ocular injection of serum.* This I have done on two occasions in children—the first time in February, 1914, with the collaboration of Dr. Rochon-Duvigneaud; the second time in February, 1915, with Dr. Valude. The history of these two cases will be reported elsewhere in greater detail.

The following is a brief *résumé*: The first patient, a girl, aged 6 years, was suffering from severe cerebro-spinal meningitis complicated by suppurative arthritis of the left elbow and right knee. When Dr. Rochon-Duvigneaud operated, the anterior chamber of the right eye was more than half filled by an hypopyon. The operation consisted in the injection of several drops of Dopter's serum into the vitreous and in a puncture of the anterior chamber, which did not, however, withdraw sufficient fluid for microscopical examination. The results were very satisfactory. The aqueous humour rapidly resumed its transparency, the iris regained its natural colour, and vision was recovered. A year later the child could clearly see every detail with the right eye. She only presents an immobility of the pupil as the result of synechiæ. The suppurative arthritis of the elbow and knee, which were also treated with local injections of serum, cleared up very quickly, and the joints are at the present moment perfectly normal.

The second patient, a boy, aged 2½ years, was admitted on the fifth day of severe cerebro-spinal meningitis. On the following day he presented injection of the left conjunctiva. This injection was much more marked the following day, and was accompanied by palpebral spasm. A closer examination showed a lateral hypopyon (the child was lying on the right side) and a yellow film filling the pupillary area and situated in front of the lens. Dr. Valude punctured the anterior chamber and enabled us to collect a little pus, which contained quantities of intra- and extra-cellular meningococci. He then injected 1 c.c. of serum into the vitreous. The results of the operation were most satisfactory. We very soon witnessed the detachment and progressive absorption of the exudation in front of the lens. The conjunctiva resumed its natural colour. The photophobia disappeared and the child could see clearly. The iris resumed its natural colour and reacted to atropine, and recovery will doubtless be complete.

The operation was earlier than in our first case and the dose of serum was decidedly larger.

These two cases prove that the direct introduction of antimeningococcal serum into the eye can cure suppurative meningococcal irido-choroiditis, which would otherwise result in blindness.

We have grounds for believing that such an operation has not been previously attempted. We will only mention that our collaborator, Dr. Debré, with M. Jean Paraf, reported some experiments before this Society on December the 6th, 1913, to prove the possibility of curing experimental gonococcal ophthalmia in the rabbit by injecting anti-gonococcal serum into the anterior chamber. These gentlemen had carried out these experiments with the aim of studying the effects of anti-microbic serum injected in large doses into an area swarming with pathogenic micro-organisms.

Postscript, March the 20th.—The treatment of our second case had been started only a week before the above note was written, and appeared likely to result in complete recovery.

Subsequently, however, the ocular infection presented a relapse which required two more injections. This occurrence did not cause us extreme surprise or uneasiness. We often observe similar recrudescences in the suppuration of the meninges which we see yield to fresh intra-spinal injections of serum. The difficulties caused by the present state of affairs did not allow us to operate on the eye as soon as we should have liked, and if at the present moment the ocular infection appear definitely checked it is not yet possible for us to assert that recovery of vision will be complete. Whatever may be the final result, it will in no way invalidate what we have said as to the legitimacy and timeliness of the treatment which we have advocated.

Philadelphia Pediatric Society.

March the 9th, 1915. W. N. Bradley, President.

Removal of Tonsils by the Sluder Method.—Dr. Ralph Butler.—The technique consists in placing the aperture in the blade over the tonsil, scooping it out of its bed, and pulling it forward and upward until it lies over the alveolar eminence which serves to push it through the aperture. The tonsil is then slowly squeezed from its attachments and is completely removed with its capsule.

Less time and ether are required and there has been less secondary hæmorrhage than with other operations.

Disturbance of Pituitary Function.—Dr. Charles V. Dorwarth showed a girl, aged 4 years and 7 months, corresponding to group 3 of Cushing's classification, in whom skeletal growth indicated a perversion of the anterior lobe and excessive adiposity an insufficiency of the posterior lobe.

Vaginal Washings for Bacteriological Diagnosis.—Dr. Dorwarth.—Vaginal smears in cases with vaginal discharge often fail to show gonococci when these are present in vaginal washings. After cleaning the vulva with soap and water, a pipette containing 1 in 4000 perchloride solution in normal saline is introduced into the vagina, and by alternately emptying and filling the pipette the adherent secretion and superficial cells are detached and mixed with the solution, which is then placed in a test-tube and sent to the laboratory for examination.

Circumscribed Labyrinthitis.—Dr. G. M. Coates.—A boy, aged 13 years, with large tonsils and adenoids, who had had discharge from both ears for the last seven years, developed severe attacks of vertigo. There was no spontaneous nystagmus with the eyes at rest, but a rotation test caused nystagmus of 20 secs. for each side. Diffuse labyrinthitis was excluded by the amount of function preserved.

Bevan's Operation for Undescended Testicle.—Dr. John H. Jopson showed two successful cases. He had performed the operation in about twelve cases, and in only two was he unable to bring the testicle down into the scrotum. The operation was indicated in practically all cases of undescended testicle and should be done before puberty, but not as a rule before three years of age.

Renal Sarcoma.—Dr. George R. Müller reported a case in a boy, aged 7 years. The symptoms were loss of weight and prominence of the abdomen, especially in its upper part, sleepiness, and headache.

An operation was performed about one year after the onset of the symptoms, and the kidney-mass, which was as large as a child's head, was removed. In April, 1915, symptoms of a possible recurrence were noted, consisting of loss of strength, slight fever, and enlargement of the mesenteric glands.

Fracture of Femur.—Dr. Müller also showed a successfully treated case in a boy, aged 14 years.

Pneumococcic Meningitis.—Dr. Müller also reported a case in a girl, aged 4 years, following a compound comminuted fracture of the skull in the right temporal region. Some improvement followed intraspinal injections of anti-pneumococcic serum, but death took place.

Extensive Fatal Thrush.—Dr. J. Frank Schamberg.—A breast-fed infant developed whitish patches in the mouth at the age of seven weeks. Ordinary treatment was useless, and the patches spread over the tongue, cheeks, palate, and pharynx. At the age of six months reddish scaly patches were present on the face, chin, and scalp, and there was an extensive eruption resembling eczema marginatum on the vulva, mons Veneris, thighs, perinæum, and buttocks. The mother's nipples showed a circular, slightly reddened, scaly eruption. A microscopical examination of the scales from the child's mouth, scalp, and genital region, and from the mother's nipples showed an enormous growth of mycelium and spores which microscopically and in cultures proved to be the *Saccharomyces albicans*.

Local treatment and vaccine therapy were unavailing.

The Schick Test.—Dr. John A. Kolmer demonstrated the method. He laid special emphasis on the necessity of using a ripened toxin that had been properly titrated for its minimal lethal dose and the use of an accurately adjusted syringe and a fine needle. The injection must be made in the layers of the epidermis, and must leave an anæmic spot to show that the injection had been properly made. He uses $\frac{1}{40}$ of the minimal lethal dose for a 250 grm. guinea-pig so diluted with sterile normal salt solution that this amount is contained in 0·05 c.c. of fluid. The reactions are usually present within forty-eight hours of injection. An area of erythema more than 5 mm. in diameter is regarded as positive. The test is of practical value in showing which persons require passive immunisation with antitoxin when exposed to diphtheria.

Ringworm of the Scalp.—Dr. KOLMER and Dr. ALBERT STRICKLER showed a patient with ringworm of the scalp in whom an intradermal injection of the extract of the microsporon Audoini was followed in twenty-four hours by an area of erythema and slight œdema. In persons free of this disease the reaction was negative. They also demonstrated a reaction of less degree in the same patient following the intradermal injection of an extract of the fungus of favus. These anaphylactic reactions showed the biological relationship of the fungi of these two diseases, which the authors also found in the complement-fixation reactions.

Anaphylactic Reaction in Asthma.—Dr. KOLMER and Dr. S. McC. HAMILL also showed an anaphylactic reaction in a child suffering from asthma following the intradermal injection of a minute amount of egg albumin. In thirty-six hours after injection a large area of erythema developed. Since the withdrawal of eggs from the diet there had been no attacks of asthma.

Treatment of Otitis Media.—Dr. MATTHEW S. ERSNER had treated seventeen cases in children with vaccine.

The most prevalent bacteria found in discharging ears are staphylococcus, pyocyaneus, pseudo-diphtheria bacillus, and streptococcus.

The reactions are—(1) Local: (*a*) At sight of injection slight swelling, areola, and increase of heat; (*b*) in ear, first increase of discharge followed by its diminution and cessation. (2) General: Rise of temperature. The doses used were streptococcus 25,000,000 to 50,000,000, staphylococcus 250,000,000, pyocyaneus 500,000,000, pseudo-diphtheria 250,000,000. The result of treatment was as follows: Pyocyaneus, 8 cases, 5 dry, 3 wet; staphylococcus, 7 cases, 4 dry, 3 wet; streptococcus, 1 case, dry; pyocyaneus and pseudo-diphtheria, 1 case, dry.

Vaccine Treatment of Ringworm of the Scalp.—Dr. A. STRICKLER had cured seven patients by this method. The vaccine was prepared by growing infected hair previously soaked in absolute alcohol for twenty minutes, then washed with sterile water on "French-proof agar." After growing for twenty-four days at room-temperature, the growth was removed into a sterile mortar and ground up thoroughly with sufficient sodium chloride crystals to bring it up to normal salt solution. Ten c.c. of chloroform was then added and the vaccine heated for about one hour at 60° C. The vaccine was then tested both for live fungi and also ordinary bacteria.

Treatment consisted in injecting 1 to 2 c.c. of the vaccine every four days between the scapulæ.

Wassermann Reaction in the Routine Examination of 179 Children.—Dr. C. R. REINERS.—Ninety-three were positive and 156 negative. Of the former 8 had been diagnosed clinically, and in 15 syphilis had not been suspected, the diagnosis being broncho-pneumonia, enuresis, digestive disturbances, mitral endocarditis, enlarged tonsils, persistent thymus, acute rheumatic fever, etc.

APRIL THE 3RD, 1915. WILLIAM N. BRADLEY, M.D., President.

Hæmorrhagic Disease of the Newborn.—Dr. ALICE WELD TARRANT.—The patient was a male infant, weighing 8¾ lb. at birth. On the morning of the third day of life a hæmorrhagic area appeared under the skin of the neck and upper chest, extending up under the left ear. By night it had risen almost to the chin and under the right ear. A small hæmorrhage was seen on the roof of the mouth and a stool showed streaks of fresh blood. Temperature 103° F., pulse 168, respiration 52. The next morning the hæmorrhagic area was so swollen that the child lay with head far extended, and was cyanosed and dyspnœic from the pressure; the muscles of the limbs were rigid. Three petechiæ appeared on the back and one on the ankle, and there was slight oozing from the cord. Gelatin and adrenalin were administered for twenty-four hours with whisky as a stimulant. He was then given two-thirds of an ampoule of coagulose hypodermically and the rest of the ampoule next morning. Gradual improvement took place, and the child when seen at the age of 7 weeks was perfectly well.

Pellagra in Children.—Dr. WILLIAM DRAYTON, Junr., showed two cases who had always lived in Philadelphia. Both were girls about 11 years old. One was of Italian, the other of American parentage, and neither had been out of the city for more than a day or two at a time.

Both came under observation for difficulty in walking, the gait being ataxic and slightly spastic. Both showed roughness of the dorsum of the hands and similar skin changes about the eyes. In both the reflexes were increased, and there was slight corneal nystagmus. Wassermann reaction was negative in both.

The Thymus Gland in Health and Disease.—Dr. LE BOUTILLIER reported four cases:

(1) A case of status lymphaticus with a thymus weighing 65 grm., where death was due to pressure on the base of the heart and its ganglia.

(2) A case of tracheal stenosis due to an enlarged firm thymus weighing 29 grm., the specimen showing marked constriction of the trachea.

(3) A case of thymic asthma in a boy, aged 2½ years, admitted to a fever hospital for laryngeal diphtheria on three different occasions, but with no evidence of diphtheria. X rays confirmed the diagnosis of enlarged thymus.

(4) Enlarged thymus associated with a simple goitre, X rays showing the condition.

Leucocyte Counts during Digestion in Bottle-fed Infants.—Dr. A. GRAEME MITCHELL.—Comparatively little work has been done on this subject, but the opinion of the majority of writers may be summarised as follows: (1) In babies digestive leucocytosis is inconstant. (2) In adults digestive leucocytosis is inconstant. (3) A rise occurs in the early afternoon regardless of food. (4) Animals such as dogs, cats, and rabbits show a leucocytosis after food high in protein. (5) The majority of researchers think protein food to be necessary for the production, and a few think the whey and sugar content to be the cause.

Dr. Mitchell's report consisted of a study of fifty children in whom over 400 blood counts were made. A leucocyte count was made immediately before feeding, immediately after feeding, fifteen minutes after, half an hour after, and so on every half hour till the next feeding.

His conclusions are as follows: (1) Bottle-fed babies do not constantly show digestive leucocytosis; in fact, the majority show a smaller number of leucocytes in the superficial blood after taking food than before. (2) This decrease is greatest at from one to two and a half hours after food, and tends to rise before the next feeding. (3) When a rise does occur it is most frequently soon after feeding, and begins to decline in a half hour. (4) Crying, struggling, and chilling of the part from which the blood is extracted increases the count. (5) There seems to be as yet no adequate explanation for the increase or decrease. (6) Comparative counts should be made at the same time of day, and at the same time in relation to food.

Abstracts from Current Literature.

Diseases of the Uro-genital System.

Nocturnal incontinence of urine in children (*'Med. Journn. of Austral.,'* 1915, I, *p.* 377).—**T. W. Lipscomb** describes the condition as due to two causes: functional as a result of increased irritability of the bladder, or subnormal control of the sphincter, or both; and pathological, effected by hyperacidity or alkalinity of the urine, calculus, etc. *Treatment.*—Up to the age of 3 the child should be educated to retain his urine and to indicate when he desires to micturate. After 3 treatment is indicated; corporal punishment should be avoided, any peripheral exciting cause, as enlarged prepuce, thread-worms, etc., removed, and the bowels opened daily. The bedroom should be airy and the bedclothes light. The evening meal should be light with little fluid, and the child should not go to bed for an hour after tea. The child should sleep on the side with an empty cotton reel tied to the back. Belladonna and strychnine are the best drugs. The former should be given in 3 minim doses of the tincture, the last dose being given when the patients go to bed, and should be increased to 15 minims, and gradually reduced after the incontinence has ceased.

F. R. B. ATKINSON.

Postural albuminuria in childhood (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 461).—**L. Jeanneret.**—Hitherto two principal views have been held as to the pathogeny of this condition: (1) Jehle's view that it is due to lordosis only. (2) Langstein's view that it is orthostatic in origin. There are several less important schools who attribute it to tuberculosis, adenoids, or disturbance of the nervous or vascular systems. Jeanneret was led to regard Jehle's theory as too absolute, for the following reasons: (1) Like Langstein, Götzky, and others he had seen many children with a true fixed lordosis who had never had any albuminuria. (2) Numerous cases of spinal disease, with very marked compensatory lordosis, observed by Jeanneret, had never had any albuminuria. (3) He had never obtained albuminuria by performing Jehle's test (prolonged maximal lordosis with a bolster). Jeanneret also found that the upright position alone was not the determining factor, as he had hardly ever found albuminuria in convalescents on allowing them to get up. In a girl, aged 13 years, he found that albuminuria could only be produced by the combination of three factors—lordosis, upright position, and immobility. Examination was then made of 204 children, aged from five months to fourteen years, with the following results: (1) Lordosis, as a rule, is not sufficient to produce albuminuria. Lordosis, by itself, gave rise to albuminuria in 3 per cent., and then only when the patient was left motionless. (2) Orthostasis alone caused albuminuria in only 1·3 per cent., and then only when the patient was kept motionless. (3) Lordosis and orthostasis, accompanied by movements of the leg, caused albuminuria in only 1·6 per cent. (4) The combination of the factors—lordosis, orthostasis, and immobility—caused albuminuria in 49 per cent. (5) Sex, age, and tuberculosis had no ætiological significance. Postural albuminuria is, therefore, not due to a single cause, but to the combination of several factors. This view reconciles the apparently conflicting theories of Jehle and Langstein. Jeanneret accepts Jehle's view that the albuminuria is due to venous stasis in the renal area. Unlike Jehle, however, he does not think that this congestion is due to lordosis alone, but to a combination of lordosis and immobility. The muscular contractions producing immobilisation in the lordotic position give rise to the venous stasis. Normally the child compensates by its movements for the obstruction produced by lordosis. The prophylaxis and cure for postural albuminuria consist in allowing the child freedom of movement. J. D. Rolleston.

Purulent affections of the urinary passages in children ('*La Pediatria*,' 1914, xxii, *pp.* 561 and 646).—**S. Cannata** and **G. Caronia** record their experiences in the children's clinics at Palermo and Naples during 1912–1914. They found these affections common in infants, and more so in females and in hot weather. They are due to a variety of micro-organisms, the *B. coli* being by far the most frequent. Predisposing causes are the uric diathesis, tuberculous and syphilitic taint, phimosis, and other uro-genital malformations. Some cases are primary, others secondary. The authors consider that infection through the blood-stream is the most frequent and important, and admit the possibility of lymphatic infection, but find no evidence in favour of infection through the intestines. There is slight hyperæmia of the mucous membrane, characterised microscopically by a mild chronic inflammatory process of no great extent. Clinically, cystitis cannot be distinguished from pyelocystitis. In primary forms there is usually fever, sometimes with more or less severe and inconstant general symptoms and pallor. At the same time polyuria, painful micturition, and turbidity of urine make their appearance; these symptoms last in acute cases ten to twenty days, in subacute two to three months. Secondary forms appear during the primary disease and are characterised by aggravation of the general condition and of certain symptoms, such as fever, and by the onset of disturbances of micturition. The type of fever assumes various forms, the irregular intermittent predominating. The pallor noticed at the onset of the attack is a marked feature, and may persist after recovery. Dysuria from spasm of the vesical sphincter is frequent; there is polyuria, rarely retention, and sometimes enuresis. The urine is turbid, stains the linen, and has often a disagreeable odour. There may be also hæmaturia. The digestive system is affected; there may be anorexia and vomiting; diarrhœa is more frequent than constipation. Sometimes there is enlargement of the liver, with or without jaundice, and of the spleen. Affections of the respiratory system often precede those of the urinary passages, but the circulatory system is not often implicated, although there may be polynucleosis and sudanophilia. The nervous system shows more or less marked reaction. Among complications there may be septicæmia, but the most important is implication of the kidneys. Diagnosis depends on examination of the urine, and prognosis must be guarded owing to the possibility of the disease becoming chronic. Curative methods are many. The authors have not much faith in alkalinisation of the urine, but prefer the administration of salol and hexamethyltetramine. Serotherapy and vaccine treatment play an important part in the treatment.

Vincent Dickinson.

Involvement of the urinary tract as a result of focal infections (*'Journ. Amer. Med. Assoc.,'* 1915, lxv, *p.* 312).—**C. G. Grulee** and **F. W. Gaarde** state that there is a form of acute hæmorrhagic nephritis occurring in children which usually follows six or seven days after an acute tonsillitis, and is accompanied by high rise in temperature and hæmaturia. In some cases the removal of a focus of infection is followed by immediate clearing up of the urinary findings. In many instances cultures from the blood and from the throat agree very well with the urinary cultures. Six cases are quoted, and a review of these shows that in every case the acute attack of hæmaturia followed some infection of the nasopharynx or tonsil. In two of these cases recovery was almost immediate, following, in the one instance, the removal of the tonsil, and, in the other, the drainage of the mastoid. In two cases the culture from the urine was negative; in both of these the culture was made several days after the onset of the condition. In two of the other cases the *Staphylococcus albus* was found, one a streptococcus producing slight hæmolysis, and in the other a *Staphylococcus albus* and a *Streptococcus hæmolyticus*. The blood culture in one instance showed an organism similar to that found in the urine. When taken, the organisms obtained on the cultures from the throat showed a great similarity to those obtained in the urine. It is significant that five of these cases occur in boys, varying in age from two to six years. As to the clinical picture, the following may be said: With the exception of one case the tonsillitis which preceded the condition had practically subsided before the appearance of the hæmaturia. With the exception of this case, the tonsillitis preceded the hæmaturia six or seven days. The hæmaturia came on suddenly and was accompanied by albumin and casts. In general, it showed a tendency to rapid remission, so that within two or three weeks the urine was clear. There seemed to be a tendency for the leucocytes in the urine to increase in number with the disappearance of the red cells, which in turn disappeared. The temperature was high and irregular in the acute stages, coming to normal with the disappearance of the urinary findings. There was practically no disturbance of the general condition of the patient, the amount of prostration being surprisingly slight. There was no œdema in any of these cases, except for a very slight swelling of the eyelids in the case which followed the mastoid involvement. In none of the cases was there a history of the giving of drugs, such as hexamethylenamine, which might produce temporary hæmaturia. The blood showed a very slight anæmia in all cases, the reduction in the hæmoglobin of the red cells being so slight as to be negligible. In all cases there was a distinct leucocytosis of the polymorphonuclear variety. This varied between 15,000 and 30,000. The authors differentiate these cases from acute hæmorrhagic nephritis following scarlet fever, and doubt whether urinary antiseptics were of much avail in treatment.

T. R. WHIPHAM.

Renal infantilism (*'Arch. of Ped.,'* 1915, XXXII, *p.* 85).—**Langley Porter** records two cases of retarded growth due to organic renal disease. The symptoms were of the usual type—infantalism with polyuria and polydipsia. In one case the heart showed enlargement and a bruit, the condition being thought to be congenital. The second case was admitted to hospital moribund and died of uræmia the next day. The child was aged 6 years and 4 months. There was no autopsy.

REGINALD MILLER.

A case of rupture of the left kidney with partial laceration and evulsion of the healthy spleen (*'Journ. de Méd. de Bordeaux,'* 1914, LXXXV, *p.* 389).—**R. Lataste.**—This condition was due to a fall of 9 ft. The child died and post-mortem examination revealed the above conditions.

F. R. B. ATKINSON.

Rupture of the prostatic urethra (*'Med. Record,'* 1915, LXXXVII, *p.* 776).—**S. W. Schapira.**—A boy, aged 14 years, was run over by a motor car and admitted to hospital with distension and ecchymosis of the abdomen, and infiltration and ecchymosis of the penis, perineum, and scrotum. A diagnosis of ruptured bladder was made. On suprapubic incision the prostatic urethra was severed entirely from the bladder, and the pubic bones were separated, the left being at least an inch below the right. A week after the operation a soft rubber catheter was introduced into the bladder per urethram and was retained for two weeks. Sounds were then passed for three months. Five months after the accident the patient returned to hospital complaining of frequency of micturition and small stream. On perineal section a hard fibrous ring was removed from the prostatic urethra. A catheter was kept in the bladder for twelve days. The author concludes that approximation of the torn end of the urethra is unnecessary so long as adequate drainage is provided. Stricture, however, may supervene months after the injury.

CHRISTOPHER ROLLESTON.

An unusual case of masturbation (*'Med. Record,'* 1915, LXXXVIII, *p.* 608).—**J. A. Gilbert.**—A boy, aged 10 years, had masturbated ever since he was two and a half years old. The habit was not confined to the night, but was resorted to as often as opportunity allowed during the day. All methods that parents and doctors could devise were unavailing. Cats, dogs, boys and girls were used for the gratification of the habit whenever opportunity allowed. He was worse after circumcision than before owing to the local irritation serving as a stimulus. At the request of the parents, who feared he might impregnate some girl when he reached puberty, castration was performed, and he was admitted to a school for the feeble-minded. Though not perfectly normal mentally he was far above the average class of boys of his age in the school. The habit gradually disappeared in the course of the three years following castration. J. D. ROLLESTON.

Gonorrhœa in male children (*'Boston Med. and Surg. Journ.,'* 1914, CLXXI, *p.* 351).—**W. D. Bieberbach.**—A boy, aged 6 years, showed considerable narrowing of the preputial orifice and a copious offensive discharge at the margin of the prepuce. A diagnosis of phimosis was made, the cause being balano-posthitis due to a long, tight foreskin. Circumcision was performed next day. A few hours after the operation the patient was unable to pass urine. The meatus was then found to be swollen, and on separating the lips, which had been glued together, there was a free discharge of pus, examination of which showed gonococci. A younger brother, aged 3 years, showed the same condition. Their sexual organs were much larger than those of the average child of the same age. No confession could be obtained, but they had probably been infected by their sister, aged 13 years, with whom they occupied the same bed. She in turn had been violated and infected by her step-brother, aged 18 years. In addition to the ordinary prophylactic treatment the children were placed on a non-stimulating diet. The boy aged 3 years was given 10 drops of thyresol daily, and the boy of 6 years 15 drops. Both had their anterior urethra irrigated every other day with protargol, starting with a solution of 1 in 8000 and gradually increased up to 1 in 4000. At the end of the second week the discharge was very slight and contained few gonococci. Instillations were then substituted. At the end of the fourth week the discharge had entirely ceased. All treatment was then stopped, and the children were kept under observation for two weeks, when they were discharged as cured.

J. D. Rolleston.

On the frequency and prognosis of rectal gonorrhœa in the vulvo-vaginitis of children (‘*Arch. f. Kinderheilk.*,’ 1914, cxx, *p.* 177).—**D. Wolffenstein,** in twenty-six cases of gonorrhœal vulvo-vaginitis in children, found rectal gonorrhœa in fourteen, or 54 per cent. Owing to the danger of re-infection of the vulva and vagina, rectal gonorrhœa should be treated with silver salts in the same way as the vagina or urethra. The prognosis of vulvo-vaginitis and rectal gonorrhœa is favourable according to the writer's experience. J. D. Rolleston.

The prevention and treatment of vulvo-vaginitis in children (‘*Amer. Journ. Med. Sci.*,’ 1914, cxlviii, *p.* 480).—**F. J. Taussig** reports on sixty-six cases of vulvo-vaginitis in children varying in age from 3 weeks to 12 years. In all but three cases gonococci were found in the discharge. No case in which sexual contact could be excluded occurred after puberty, a fact which is explained by the protection of the vaginal orifice by the growth of the labia vagina and pubic hair. As regards the origin of infection, there was no evidence of rape in any case, and in only two instances was gonorrhœa found in the mother. The author regards the seat of the common lavatory as the most frequent source of contagion. As regards treatment, the author recommends instillation by means of a rubber tipped urethral syringe pressed tightly over the orifice in preference to the vaginal douche, which fails to distend the folds of mucous membrane. For the first two weeks (in girls of school age) 25 per cent. argyrol was used twice daily; in the third and fourth weeks, 1 per cent. silver nitrate daily; in the fifth and sixth weeks, 2 per cent. silver nitrate every other day; in the seventh to tenth week, 4 per cent. silver nitrate once or twice a week. The lactic acid bacillus treatment was tried with doubtful results, and the author is not in favour of vaccines for gonorrhœa of the mucous membranes. As regards prognosis, it is difficult to say when a case is cured, even by means of the complement-fixation test, but with active treatment 75 per cent. should be cured in three or four months. In the author's cases complications were rare; there was one case of possible salpingitis, two of ophthalmia, and one with arthritis. As measures for prophylaxis the author recommends: (1) The instillation of a drop of 2 per cent. silver nitrate solution in the vagina of all newborn girls whose mothers show evidence of gonorrhœa; (2) notification of the disease; (3) instruction of parents in preventive measures to limit infection; (4) investigation of the probable origin of contagion by a visiting nurse; (5) the adoption of a V-shaped lavatory seat in the lavatories of schools and tenement houses. C. F. MARSHALL.

Vesico-vaginal fistula in a child aged 8 years: spontaneous cure following removal of a hair-pin ('*Am. Journ. Obst.*,' 1914, LXIX, *p.* 1075).—**I. C. Rubin** narrates this case. F. R. B. ATKINSON.

Ophthalmology.

Ophthalmia neonatorum ('*New York Med. Journ.*,' 1915, CI, p. 1159). —**De Forest.**—The eye should be washed out every hour with a saturated solution of boric acid, dropped from saturated cotton-wool. In bad cases one or two drops of 2 per cent. nitrate may be instilled once daily. No bandage should be used; but the unaffected eye should be covered with a watchglass fastened on as a shield for protection against infection. The writer does not approve of the use of a syringe, as the eye may be injured, either by a too vigorous stream of lotion or by the syringe itself. Ice compresses, continually changed, should be begun at once.

J. PORTER PARKINSON.

A case of arthritis associated with ophthalmia neonatorum ('*Med. Journ. of Austral.*,' 1915, II, *p.* 142).—**H. Laurie** was called to see a baby ten days old suffering from gonorrhœal ophthalmia and swollen left wrist and right ankle. At the end of three weeks from birth the joints were normal and the conjunctivæ had ceased to discharge as a result of treatment.

F. R. B. ATKINSON.

Hereditary aniridia ('*Journ. Amer. Med. Assoc.*,' 1915, LXIV, *p.* 1310). —**S. D. Risley** gives an account of a case of aniridia with a history of the condition persisting through four generations. T. R. WHIPHAM.

Blue sclerotics associated with brittle bones ('*Amer. Journ. Dis. Child.*,' 1915, IX, *p.* 205).—**C. Herrmann** and **P. H. Fridenberg** record a case in a boy, aged 2 years. No other member of the family had blue sclerotics or brittle bones. At 18 months he fell from an ordinary chair and fractured his right tibia, and six weeks later his right femur while still in bed with his leg in a cast. A skiagram of the right femur and tibia showed that they were more transparent than normal, especially towards the proximal end of the tibia; the epiphyseal ends were broadened and showed distinct lack of cortical substance. The muscles and ligaments also showed the same lack of density. A skiagram of the arm showed very little change from normal. The colour of the sclerotic was of a uniform china blue; otherwise there was no ocular abnormality. The vision seemed acute. The iris was of a leaden-grey colour, and the fundus very blond. The discs were normal. Fridenberg attributed the transparency not only of the sclera and iris, but also of the bones, muscles, and ligaments, to an absence of lime salts in the connective tissue of nerve structures rather than to a lack of fibrous tissue. J. D. ROLLESTON.

A case of lacrymal adenitis (*'Med. Journ. of Austral.,'* 1915, II, *p.* 122).—**E. Joffrey** describes this condition in a child, 7 years of age, The swelling of the gland disappeared by treatment with fomentations and argyrol. F. R. B. ATKINSON.

Panophthalmia occurring during pneumonia (*'Med. Record,'* 1915, LXXXVII, *p.* 813).—**R. L. Pitfield.**—A girl, aged 13 years, was admitted with the symptoms of meningitis and with a history of recent apical pneumonia, and old rheumatism and chorea, confirmed by the presence of a double mitral murmur and thrill. A leucocytosis up to 33,000 was present. The cerebro-spinal fluid contained pneumococci. On the eleventh day after admission the corneæ became hazy, the fluid in the anterior chambers was milky, and exudative choroiditis was present. The right lung re-consolidated throughout its whole extent, and delirium set in. Three days later the eyelids became œdematous, and pneumococci were found in the pus of the conjunctival sac. Argyrol dionin, boric acid, and atropine were all tried without success. Death took place on the sixteenth day after admission.

CHRISTOPHER ROLLESTON.

Some ocular complications of mumps (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1915, XXXIX, *p.* 610).—**F. Ramond** and **G. Goubert.**—Among 115 soldiers suffering from mumps, 45 presented the following ocular complications: Lacrymation, conjunctivitis, chiefly bulbar and of variable intensity, disturbance of vision ranging from a mere impression of haziness to an inability to read a line of a newspaper. There was only one case of dacryoadenitis. Examination of the fundus was made in the sixteen cases who complained of disturbance of vision. All showed a marked accentuation of the normal red coloration of the papilla, or a vagueness in its outline, or an appreciable swelling of the retinal veins. In one case congestion of the iris was associated with a turbidity of the fluid in the anterior chamber. These various changes were transitory, and disappeared entirely as the parotitis subsided. In one case, however, the retinal lesion was more marked and persisted for a month after recovery from mumps. None of the patients had albuminuria in the course of their disease. J. D. ROLLESTON.

A case of paresis of accommodation after diphtheritic vulvo-vaginitis (*'Klin. Monatsbl. f. Augenheilk.,'* 1915, LIII, *p.* 427).—**R. Pape.** —A girl, aged 12 years, developed paresis of accommodation six weeks after an attack of vulvo-vaginitis. Recovery took place in a few weeks under toxin treatment. No mention is made of a bacteriological examination.

J. D. ROLLESTON.

Paralysis of the eye muscles by trichocephali and oxyurides (*'Rev. méd. de la Suisse rom.,'* 1915, XXXV, *p.* 167).—**A. Dufour** records two cases. (1) A girl, aged 10 years, suddenly complained of diplopia and headache. Examination showed paresis of the left superior oblique and impairment of general nutrition. After treatment with tonics and derivatives the paresis disappeared, but three weeks later she developed successively paresis of the right inferior oblique, left external rectus, right inferior rectus, and complete paralysis of the right external rectus. The nose and throat were normal and hysteria could be excluded, but a large number of trichocephalus eggs were found in the fæces. In spite of treatment with various anthelmintics, the stools and ocular movements did not become normal for fifteen months. The following year the child developed bilateral paresis of accommodation, which on this occasion was due to oxyurides. (2) A girl, aged 11 years, suddenly developed paresis of the superior and inferior oblique and almost complete paralysis of the right external rectus. There were numerous trichocephali in the stools. After treatment with thymol, castor oil, and santonin the worms disappeared, but the diplopia persisted for another month. J. D. Rolleston.

Eye symptoms in Kaposi's disease ('*Lancet*,' 1915, I, *p.* 979).—**F. Richardson Cross** read before the Ophthalmological Society of the United Kingdom a paper on "Eye Symptoms in Kaposi's Disease (Xeroderma Pigmentosum)." In a general review of the disease he stated that spots like freckles appeared in the first year or two of life and were often precursors of the grave skin disease described by Kaposi in 1870, accompanied by dryness and atrophy of the skin, and other serious changes. Frequently more than one member of a family were affected. The prognosis was very gloomy; early death might occur from deep ulceration towards the brain or other vital parts; or from exhaustion or hæmorrhage. The muco-cutaneous surfaces, such as the eyelids, became thinned, shrunken, and fissured with superficial ulcers; and the eyeball might participate in any phase of the disease, and warts might occur on the lid edges. The ocular conjunctiva was usually hyperæmic. Some cases showed pterygium, and the cornea became hazy from infiltration of its substance or from swelling of the epithelium. Ectropion was frequently present, leading to opacity or ulcer of cornea. But in many cases the eyes were open and light was well tolerated. The optic nerve and intra-ocular structures were affected only late, if at all. Massage of the eyeball, especially by the use of calomel ointment, served to empty the superficial blood-vessels. Whitfield had much improved one such case by applying X rays. During the past year the author had had under observation two cases of Kaposi's disease, brother and sister, aged 11 and 9½ years. The parents (cousins) were healthy. The boy was born in Ceylon, and when coming to England at nine months old he became very sunburnt in the Red Sea, his skin becoming scarlet. Later the face, neck, and shoulders were dotted with yellowish-brown pigment spots, and the skin became thin and shrunken. The girl was born in England and arrived at Ceylon when a few months old; in her voyage she did not encounter excessive sun-glare. At nine months of age her skin also became bad, and a little later a small nodule appeared on the cheek, but fell off, leaving no scar. She had implication of the eyelids, causing eversion. When four years old the boy had a troublesome papule on the eye, for which he was treated by Sir John Tweedy. At that date there was subconjunctival ecchymosis at the outer side, and at the inner side of the globe, between the cornea and the caruncle, a truncated conical swelling with some ecchymosis and conjunctivitis. There was so much photophobia that a satisfactory view could not be obtained. On the following day, under a general anæsthetic, he examined the eye and found an indolent swelling in the conjunctiva and episclera at the inner side of the globe. He scraped it with a sharp spoon and applied powdered salicylic acid and ordered the eye to be washed two or three times a day with a solution of salicylate of sodium. The eye gradually improved until the seat of the swelling presented the appearance of a small phlycten. Eighteen months later, when Sir John Tweedy next saw the case, the eyes were much stronger and were rarely inflamed. Two and a quarter years later the patient saw J. 2 with correcting glasses. When the author saw the boy twelve months ago he had much photophobia, both winter and summer, and when in the light he was constantly sneezing. He found it difficult to read. Under chloroform there was found to be a dull hyperæmia of the eyeballs and two small phlyctenular swellings were also noted. The corneæ were somewhat glassy; the pupils were small, but reacted to light and opened freely to. homatropine. A few days later he saw $\frac{6}{18}$ for a moment and J. 6. Improvement was reported after massage of the eye with calomel ointment. In November there was acute inflammation of the right eye and a fine infiltration running across the cornea. There were also a haziness of the left cornea and a marginal spot looking like pterygium. The conjunctival growth removed from the eye of the boy consisted almost entirely of epithelial cells, mainly prickle cells, and showed evidence of commencing malignancy. J. ALLAN.

Apparent accommodation with aphakia (*'Lancet,'* 1915, I, *p.* 980).—**Treacher Collins,** at the Ophthalmological Society of the United Kingdom, described the case of a boy who had lamellar cataracts removed from his eyes when 7 years old by repeated discission operations. When he was 14 it was discovered that he was using only one pair of glasses for both distance and reading. On testing his sight it was found that he saw right with + 13, $\frac{6}{6}$; left with + 13, $\frac{6}{9}$; and with the same glasses in the same position on his nose, looking straight through the centre of them, he read J. 1 fluently. Any alteration in curvature of the cornea while he adapted his eye for the near point was excluded by examination with the ophthalmometer and by the use of Batten's eye-bath. Any lengthening of the antero-posterior axis of the globe was watched for by ophthalmoscopic examination. He could see just the same when the eyelids were held away from contact with the globe. When the pupils were semidilated with cocaine he could still read J. 1 with + 13 in ordinary daylight with the right, but only J. 2 with the left. When the pupils were fully dilated with atropine he could only read J. 10 with + 13 in ordinary daylight, but in the dark room with a strong light concentrated on the test-type he still read J. 1 better with the right eye than with the left. When examined with the pupils well dilated it was seen that in the right eye there was a membrane with a sharply defined central circular aperture in it, 35 mm. in diameter. In the left eye the aperture was larger and more oval in shape; the membrane in it, moreover, did not occupy the entire pupillary area, a space being left at the circumference between it and the pupillary margin. Both pupils were regular, free from any adhesions, and acted very briskly to light. The author considered that the evidence he had collected in connection with this case went to show that there was not any true accommodation; that the boy's power of seeing clearly at different distances was due to the cutting off of circles of diffusion, partly by contraction of the pupils, but mainly by the small central openings in the membranes. He quoted several other cases which had been recorded, in which apparent accommodation was present after the removal of the lens, and advocated trying to adopt the technique in operations for soft cataract so as to produce a condition similar to that in the case described. J. ALLAN.

The present status of squint and ocular motor imbalance (*'New York State Journ. Med.,'* xv, 1915, *p.* 57).—**H. W. Wootton** briefly considers current opinion regarding concomitant strabismus and latent muscular errors. Dealing first with concomitant strabismus he asserts that the importance of refractive errors in the etiology of these deviations is fully recognised. Regarding the amblyopia his view is that this is congenital and is a primary factor in the etiology of most cases of strabismus. He does not agree with Worth and his investigation of the fusion sense, and for this reason the author has little faith in the treatment of squint by stereoscopic exercises. The value and limitations of operative treatment are next discussed, and the technique of various operative measures is considered. Regarding latent anomalies he thinks that, while their importance was at first over-estimated, a certain limited number of these anomalies do occasion symptoms apart from the refractive errors with which they are for the most part associated, and that they do at times require treatment directed to their relief. J. ALLAN.

Retinitis pigmentosa (*'Lancet,'* 1915, I, *p.* 928).—**M. S. Mayou** read before the Ophthalmological Society of the United Kingdom a paper on retinitis pigmentosa treated by trephining, the improvement following which had been maintained for four and a half months, in the hope that some light might be thrown on the etiology of a little understood disease. In this condition anything which improved the retinal circulation would temporarily benefit vision—such as amyl nitrite or paracentesis of the anterior chamber. Doyne had shown that extraction of the lens was followed by immense improvement in vision, due, it was considered, to the fact that the patient was always in a condition of semi-daylight owing to the cataract, so that the retina did not receive sufficient stimulation. Mayou, while not denying this, thought that the lowering of the intra-ocular tension, with the consequent flushing of retinal vessels, and the filtration of fluid through the scar, might be an additional factor, possibly the most important one, in the good result. He thought trephining would result in the retinal vessels being flushed with blood, and that the subsequent leakage might lead to a more rapid excretion of fluid from the eye and drain away any toxic products which might be causing local vascular sclerosis. The patient was a female, aged 17 years, who for two years had complained of night-blindness. Grandfather, father, one paternal aunt, and one brother were all affected with the same disease. The four sisters of the patient were not night-blind. She showed marked pigmentation of the periphery, the discs being slightly grey in colour and the vessels of practically normal size. The lenses were clear. When first examined the fields were contracted to a 10° circle on both sides. On November 13 last, and again on December 1, paracentesis of the left eye was performed, and on each occasion there was distinct improvement in the fields. On December 8 trephining was done under general anæsthesia. On removing the disc of sclera there was a very free prolapse of iris, which was slightly caught in the wound; recovery was otherwise uneventful. A week later the field on this side had practically reverted to normal, and she could walk about freely in a darkened room. Improvement was maintained to the present date. On covering the unoperated eye she could see well at night-time, but if both eyes were open she was still somewhat night-blind. He could not advance any explanation of this. The improvement could not be expected to last very long, but it might continue for a length of time which justified the operation in selected cases. J. ALLAN.

Lymphangioma of the orbit with hæmorrhage (‘*Lancet*,’ 1915, I, *p.* 929).—**G. Mackay.**—The patient was seen first in 1906, being then 15 months old. Paracentesis and, later, excision so far as practicable having failed to eradicate the growth from the apex of the orbit, X-ray treatment had been employed, and with much benefit. Owing to the irregularity in the patient's attendance, proptosis had been allowed to recur at intervals of one to three years, but had always yielded to further X-ray applications. The cure now appeared to be complete, and vision and movements were unimpaired. J. ALLAN.

Bilateral glioma of the retina (‘*Amer. Journ. Dis. Child.*,’ 1915, IX, *p.* 485).—**H. F. Hansell** reviews the literature and reports a case in a boy, aged 2 years. There was no family history of cancer or other forms of tumour, or of congenital affections of the eye. The disease was most advanced in the left eye, which was enucleated, and Hansell proposed to remove the right as soon as vision in it was lost. Examination of the excised eyeball after hardening showed an irregular, greyish, soft tumour in the vitreous apparently arising near the entrance of the optic nerve and extending into the vitreous to within a few millimetres of the lens. The retina appeared intact. Histologically the tumour was found to arise from the granular layers of the retina and to be made up of numerous small round cells with deeply staining nuclei, lying in a network of neuroglia fibres. The blood-vessels, with well-formed walls and filled with red cells, appeared directly among the cellular elements. The optic nerve was not involved.

J. D. ROLLESTON.

Angiosarcoma of retina (‘*Med. Press*,’ 1915, I, *p.* 488).—**C. Walker.**—The patient, aged 4 years, was seen on November 11, 1914. Eight months before there was said to have been a film over the right eye; no pain or redness. It disappeared in about six weeks. In June and September there was some pain in the eye, but the boy had regularly attended school to the end of October The right eye was seen to be the seat of a brownish-yellow hypopyon. There was no ophthalmoscopic reflex; the tension was normal, and the pupil dilated well with atropine. There was doubtful perception of light. The left eye was normal, and the patient's general condition good. Ten days later the eyes became red and tender, and there was some continuous pain; the tension was plus 1. The contents of the anterior chamber were evacuated, and Prof. Walker Hall reported that the material was probably sarcomatous. The eye was accordingly excised and submitted to the same authority. Early in December some $\frac{3}{4}$ in. of the stump of the optic nerve was removed, with a mass of tissues surrounding it. Pathological examination showed that recurrence had commenced in the stump of the nerve and the surrounding tissues, but there was a small margin of healthy tissue. Recurrence took place within a fortnight of the second operation. The boy's mental condition was not affected, and there had been no metastasis. The specimen showed that the ciliary region was not invaded.

J. ALLAN.

Reviews.

SIMPLIFIED INFANT FEEDING; WITH SEVENTY-FIVE ILLUSTRATIVE CASES. By ROGER H. DUNNETT, B.S., M.D. With 14 illustrations. Philadelphia and London: J. B. Lippincott & Co. Pp. 345. Price 12s. 6d. net.

THE title of this work, "Simplified Infant Feeding," indicates the author's aim. It is an attractive title, perhaps too well calculated to rouse expectations in the mind of the prospective purchaser. It is true that reflection will show that the purpose of any author, writing for busy practitioners, who undertakes to discuss so vast a subject in a volume of some three hundred pages, is to present the matter in as simple and definite a way as is compatible with truth. In his preface, however, Dr. Dunnett seems to indicate that his attempt at simplification goes somewhat further than this. He says that "theory" has been left out of this book as much as it has been possible to do so, using facts and rules where they can be made to apply; and although he admits that individual peculiarities do occur among infants, he claims that "the chief fact remains that most excellent results have been obtained in following out the system described in this book." We think that Dr. Dunnett has succeeded very well in compressing into these pages a large amount of interesting information, and that, on the whole, his directions are wise and temperate. Nevertheless, we doubt if the author is right in his contention that it is possible altogether to discard what he calls "theory," or wise to attempt to do so. It is not easy to conceive that he will be successful in giving precise directions as to dietetic modification for every individual symptom, or for the innumerable combinations of symptoms which may be met with. Yet this is attempted again and again. To quote an example of the method in which the subject is presented. Under the heading "diarrhœa in bottle-fed infants," he describes three main groups, each subdivided into four or five smaller ones, some of which are again subdivided. The three main divisions of this catalogue are headed "intestinal indigestion," "infectious diarrhœa," and "miscellaneous," and the first item in each of these three divisions are designated simple indigestion (sugar), fermentative diarrhœa (sugar diarrhœa), and sugar intoxication respectively.

We doubt if such a method of presenting his subject can appeal, as the author states that he wishes it to appeal, to the busy practitioner. Surely it would have been better to have had recourse to some general statement of the part played by sugar in the nutrition of the infant and in causing intestinal derangements. We believe that the educated medical man, just because he is busy, prefers to grasp a principle rather than to move in blind submission to a system, the details of which become as complicated as the rules of a Latin grammar.

Although we think that the author has handicapped himself by his resolution to avoid all theoretical discussion and argument, the book is very far from being without a value of its own. It is well written and adopts a sensible and well-defined attitude on all important matters. Its strong points are the minuteness and care of its practical directions, and some of the later chapters, when it seems to us that the author allows himself to forget a little the restrictions he has imposed upon himself and to which we have referred, are of very high value. The chapter devoted to the consideration of the vexed question of the merits of boiled and unboiled milk is especially good. The photographs illustrating the facial expression of infants suffering from different disorders are better than any we have seen. The directions for feeding are accompanied by full notes of seventy-five typical cases. H. C. C.

THE INDIVIDUAL DELINQUENT: A TEXT-BOOK OF DIAGNOSIS AND PROGNOSIS FOR ALL CONCERNED IN UNDERSTANDING OFFENDERS. By WILLIAM HEALY, B.A., M.D. Pp. 830. London: Heinemann. Price 21s. net.

ALTHOUGH this book purports to deal with the subject of criminology in general, its main concern is with juvenile delinquency. This is probably due to two considerations: A personal one, that the author has had his attention specially directed to this aspect of criminology through having spent the last five years as Director of the Psychopathic Institute at the Juvenile Court, Chicago; the other a wider one, namely, that anyone who, like the author, makes a scientific study of criminology must soon see that the main problems, particularly the all-important ones of genesis, relate to childhood and its development.

The volume is divided into two books. In the first, entitled "General Data," there are four preliminary chapters, then four on "working methods" and statistics, with two on general conclusions as to treatment. The methods of investigation described are specially dealt with, and this section is exceedingly valuable. The second book, entitled "Cases, Types, Causative Factors," comprises the larger part of the whole volume. The questions of heredity, antenatal and natal factors, and physical abnormalities in development are first discussed. Then follow a number of chapters on psychological factors, environmental and intrinsic; the subject of mental conflicts and "repressions" are considered at length, special stress being laid on the all-important matter of sexual development and experiences. There are several chapters on the various kinds of mental deficiency and inferiority, ranging from dulness to actual idiocy. The influence of epilepsy and alcoholism is discussed, and an interesting account given of special mental peculiarities, such as pathological lying, love of excitement, abnormal social suggestibility, etc. An imposing bibliography and a full index conclude the volume.

The book is one of a series dealing with different aspects of criminology, and it is quite one of the best of the series. It will, indeed, easily take rank as one of the few works on the subject that really count. The author's enthusiasm, erudition, and level judgment are stamped on every page. His views, though very sympathetic, err, if at all, on the conservative side, and his special talents are rather social than psychological. But, as the reviewer knows from first-hand experience, he has been at the centre of the band of devoted workers that in the past few years have revolutionised the treatment of juvenile delinquents in Chicago, and his influence has radiated over the whole of the United States. A work of this extent from his hand, therefore, is one that will necessarily arouse the strongest interest on the part of all those who have to deal with such problems. ERNEST JONES.

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Original Articles.

CONGENITAL WORD- AND LETTER-BLINDNESS.

By T. R. Whipham, M.D.Oxon., M.R.C.P.Lond.,
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Cases of congenital word- and letter-blindness, or *alexia congenita,* are probably more common than it would appear from the number of cases recorded in the literature. Doubtless a search among our elementary schools would reveal many more. An inability to read is of not infrequent occurrence among the feeble-minded; but true word-blindness, with little or no other mental defect, comes under a different category. Only 64 cases of this condition have been reported, and it is noteworthy that the defect appears to be more prevalent among boys than girls, for of the 64 cases, 47 were males and only 17 females. It is at times found in more than one member of a family, and as many as six cases in one family have been observed.

The following case has recently come under my observation, and presents several points of interest.* The patient is a physically well-developed girl, aged 8 years. In appearance she is bright and not unintelligent, but her manner is shy and reserved, and she is inclined to associate with adults rather than with other children. In disposition she is placid and good tempered, and she shows no signs of any neurotic tendency or nervous instability. She was born at full term after a normal labour, and was breast-fed until aged 10 months. Three years ago she had measles, followed by pneumonia and whooping-cough. About the same time her tonsils and adenoids were removed, and she suffered from otorrhœa for three months. She has never had any fits. There are two other children in the family; one aged 9 years, who is perfectly normal and can read well, and one aged 4 years. No miscarriages. One child died during its second year from tuberculous meningitis, and the grandfather and one aunt on the maternal side were also tuberculous. The paternal grandfather is said to have some difficulty in reading, but otherwise is of average intelligence.

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* The patient was shown before the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 26th, 1915.

The girl went to school two years ago, and she is now only in the class above the infants, her defective powers having always been commented upon by her teachers. Her general intelligence at first sight appears good. She answers questions readily and with a smile, and will promptly carry out a series of actions when bidden, *e. g.*, go to the table, take two matches out of the box, place them on the table and bring back the box. Her memory is quite good for both past and recent events, and she recognises people easily, even after a long interval. She also knows the way about her neighbourhood, and can sew fairly well for a child of her age. A closer examination, however, reveals some curious deficiencies. For instance, she cannot tell her age, but knows that her birthday is on Boxing Day, although she is unaware when exactly Boxing Day comes. She knows the day of the week, but not the month or the year; she can repeat the days of the week, but not the months. She has no knowledge of coins or of the value of money beyond the bare fact that twelve pence make a shilling. Thus, in some ways, she is below the normal standard for her age.

As regards the essential features of the case, she cannot say the alphabet, but can write it perfectly on rare occasions, although generally she stops about E or F and then goes wrong. She cannot write a given letter, except occasionally A, and can only at times pick out one or two letters from copies, or from what she has herself written. Her acquaintance with figures is limited. She can count up to twenty, but has no knowledge of numbers above that. She can write the numerals up to twelve, but frequently misses one out and usually stops at nine. Occasionally she can write a given numeral and point one out, and is most likely to succeed with the first four. She can count a number of objects up to fifteen, and can pick out a given number, but she cannot do the simplest addition in her head. She has no knowledge of Roman numerals. She cannot spell words of even two letters, and cannot read easy words like *is*, either from print or writing. On the other hand, she recognises a few words like her name, *rat*, *cat*, and *dog* when spelt to her. She cannot write from dictation simple words with certainty, *e. g.*, *at* is at times written correctly and at others *ta* ; *on* is a failure ; *cat* is mostly written correctly, but when following immediately after *dog*, the word *dog* is sometimes repeated, and *dog* itself at times sometimes becomes *gdo*.

Her writing appears to consist merely of a limited number of ideograms, which may or may not be correctly performed. Thus, she can write her own name and the name of her school correctly ; but when told to write either *R . . e* or *E . . . y* separately, she still writes her full name, *R . . e E . . . y*. In the same way, when asked to write *school*, she writes *Picardy school*, and the same thing occurs when she is told to write *Picardy* alone. Her powers of concentration flag after a time, and on one occasion, when getting tired and told to write *Picardy*, she wrote *R . . e school*. As a rule she writes and replies fairly quickly, but at times she has a long latent period, and if this is extended beyond three or four seconds, she is generally wrong in her answers.

A further interesting feature in the case is that she will voluntarily write a complicated word like *transcription*, evidently from the top of a copybook, but transposes the last two letters and produces *transcriptino*. On the other hand, she cannot write *description* or either of the syllables *trans* or *scription* separately. Another voluntary effort is to write *copy writing*, which appears as *copy writino*, the *tin* in the final syllable being evidently the same mental picture as the mistake in *transcription*. These two errors she uniformly perpetrates. When, after an interval, she is asked to read words which she herself has written, she is quite unable to do so.

As usually happens in cases of word- and letter-blindness, she can copy correctly anything that is written for her, even unknown letters like Greek. This, however, is a purely mechanical process, as she reproduces the form and even the spacing of the letters without their conveying anything to her mind. Printed words are generally transcribed in printing characters, but occasionally she will copy them in her ordinary handwriting, although again quite unaware of their meaning. She will copy accurately simple free-hand drawings, and can draw a cross and a square when asked to do so. Attempts to copy black and white illustrations, and even outline drawings, are very feeble, but crude efforts are made at drawing out of her head objects, such as an engine, and she can name the component parts, such as the wheels and funnel.

Her interpretation of illustrations is fairly good, but she did not know an elephant, a donkey, or a goat. On the other hand, when shown a picture of a Chinese woman, she was nearly right in describing it as a Japanese girl. She knows the elementary colours, and has some knowledge of form, in that she recognises a cross and a square, but she does not know a triangle.

The child has no word-deafness; she understands what is said to her, and her vocabulary, so far as can be judged, for she speaks but little, is fairly extensive for a child of her age and disabilities, and she can repeat "pieces" which she has learnt by heart. There is thus no verbal amnesia nor motor aphasia. She can name ordinary objects and specify their uses, and is so far observant, that, when shown a broken toy watch and asked if there was anything peculiar about it, she said what it was, and remarked that it had lost its hands. She knows the use of a watch, but cannot read the time or say approximately what time of day it is.

Her sight is good, and there is no hemianopia. There is no nystagmus nor intention tremor, and all the reflexes are normal. The Wassermann reaction is positive.

The pathology of these cases is somewhat obscure. Rutherfurd* considers it to be of the nature of a reversion to the pre-civilised type, an example of atavism; but in view of the positive Wassermann reaction in the present instance, it is possible that the lesion may be of a syphilitic origin. As this patient is word- and letter-blind, and also letter-deaf, as shown by her lack of knowledge of the alphabet and her inability to spell, the defect, of whatever nature it may be, must be situated around the posterior extremity of the left fissure of Sylvius, as it is in this region that the centres lie. The visual word- and letter-centre is in the left supra-marginal and angular convolutions, whence it is connected by commissural fibres with the primary visual centres in both occipital lobes, and the auditory letter-centre in the posterior part of the first left temporo-sphenoidal convolution. But now comes a difficulty which it is hard to explain. How is it that if the centre in the supra-marginal and angular convolutions on the left side is impaired, the corresponding area on the right side does not take on its function in the same way as the third right frontal convolution is supposed to act with regard to speech in left-handed persons, or when the third left frontal (Broca's convolution) has been put out of action? In children, with their aptitude for learning, it might be expected that this would naturally occur. Is it, then, to be supposed that in a case like the present there is a symmetrical defect on both sides of the brain? This would appear an extreme hypothesis. And if the defect is situated so as to affect the commissural fibres from both occipital lobes to the supra-marginal and angular convolutions in both hemispheres, it would almost certainly involve the optic radiations passing to the visual centres in the occipital lobes, and thus cause hemianopia, or some other form of blindness. In this case there is no impairment of vision, and it must be supposed, therefore, that the defect is a cortical one in the situation indicated without its being possible at the present time to explain why the corresponding areas on the right side do not take on the functions of the impaired centres. The visual word- and letter-centre is not entirely functionless, as the patient is able to recognise one or two letters at times, and has some power of writing, which shows that the visual word-centre is capable of stimulating the graphic motor-centre; otherwise agraphia would result.

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* British Journal of Children's Diseases, 1909, vi, p. 484.

The outlook in these cases is not altogether hopeless. According to Sydney Stephenson,* even severe cases are capable of considerable improvement with systematic and sympathetic training.

OBESITY; EPILEPTIFORM ATTACKS; RECURRENT JAUNDICE IN A GIRL, AGED 13 YEARS.†

By E. G. Fearnsides, M.D., F.R.C.P.,

Assistant Physician to the Hospital for Epilepsy and Paralysis, Maida Vale.

E. C—, female, born November, 1901.

Family history.—There is no family history of neuropathy or obesity, and her parents, who married in 1894, are healthy and rather below the average in size and weight. The patient is the second of two children, and her brother, born in 1896, is healthy.

Personal history.—At birth she was a fine large baby, and since the age of 7 has always been "too large for her age." Her only illnesses have been measles at the age of 3, mumps at the age of 5, and whooping cough at the age of 7. At the age of 9, after a fall down some steps, in which she hurt her head, her weight began to increase rapidly. Since April, 1913, she has been "subject to fits," and in April and November, 1913, and on January the 18th, March the 30th, and April the 20th, 1915, suffered from typical epileptiform convulsions. The attack of March the 30th occurred whilst the patient was under observation in hospital. In each attack she has been convulsed, lost consciousness, become cyanosed; on three occasions she has bitten her tongue, and in one has fallen and cut her cheek. The attacks are followed by drowsiness and intense frontal headache, and on two occasions have led to vomiting. After each attack, for a day or more she has been irritable and excitable. She has always been backward at school, and when she left school in April, 1913, had only reached Standard IV. Since the onset of the attacks her memory had become defective, and she is "no longer the bright girl she was." Catamenia began in May, 1914, and occurred regularly in June, July, August, and September, 1914, and again in March and April, 1915; on the last two occasions the loss was excessive and continued for seven days. From time to time since February, 1915, she has "gone yellow," and since this date definite bilious staining of the eyes has been observed on several occasions. On March the 5th she was definitely jaundiced, and bile was present in the urine in large quantities, but at no time has she complained of abdominal pain or exhibited any abnormal abdominal signs. Her weight on February the 5th was 11 st. 13 lb., and by February the 19th had increased to 12 st. 2 lb.; since this time she has been taking thyroid extract (2½ gr. daily) and her weight has fallen to 11 st. 3 lb.

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* 'Reports of the Society for the Study of Disease in Children,' 1904, iv, p. 165.

† The case was shown at the Neurological Section of the Royal Society of Medicine on May the 13th, 1915.

The patient is an extremely stout, thickly-set girl. The skin is moist and everywhere stained a light brown colour. The mucous membranes appear healthy. There is a well-developed pad over the lower cervical spinous processes and small supraclavicular pads, but on the whole the excess of fat is distributed over parts which about the time of puberty in girls usually show a superabundance of fat. Over the lower parts of the abdomen and upper parts of the thighs well-marked striæ of a white or pink colour are present. The veins over the lower abdomen are prominent. The axillary and pubic hair is well developed and that of the scalp normal. The breasts are large and well developed. The thyroid is small. The bones of the head, trunk, and limbs appear normal, and there is no evidence of any delayed union of the epiphyses. A skiagram of the skull taken in February, 1915, shows a clear-cut sella turcica of normal outline and dimensions. She is not anæmic, and a blood-count shows red cells 5,600,000 per cubic millimetre, hæmoglobin 106 per cent., and 17,500 white cells per cubic millimetre, with a normal differential count. The voice is natural.

The cardiac sounds are clear. The blood-pressure in the right brachial artery measures 125 mm. of mercury. No abnormal signs are present in the lungs. The liver and spleen cannot be felt and to percussion are not enlarged. No abnormal lumps can be felt in the abdomen. The urine contains neither albumin nor sugar ; the average quantity passed in twenty-fours is 36 oz.

Mentally she is dull and slow. She sleeps heavily and is not troubled with dreams. Apart from the epileptiform attacks she suffers but little from headache. There is no pressure tenderness of the scalp. Vision is unimpaired and the optic discs appear healthy. Smell, taste, and hearing are unaffected. Ocular movements are well carried out, and there is no nystagmus. The pupils react normally to light and accommodation. The functions of the other cranial nerves are performed normally. The knee-jerks and ankle-jerks are brisk, and the abdominal reflexes readily obtained. Both plantar reflexes give a flexor response. The movements of the spine are normal and the action of the sphincters controlled.

Progress.—Between May the 13th and November the 5th, 1915, she has taken daily 30 gr. each of the bromides of potassium, sodium, and ammonium, and 2½ gr. of thyroid extract, and during this period her general health has been fairly good. There have been no further attacks of jaundice, but she has suffered from generalised epileptiform attacks on August the 18th, October the 8th, and on October the 9th, and, apart from the attacks, has complained on several occasions of severe generalised headache lasting for a day at a time. Her weight has gradually increased to 12 st. 11 lb. The catamenia have been irregular and on two occasions have lasted for twenty days continuously. The excess of fat and its distribution have altered little, and the description of the patient and her nervous signs written in May, 1915, is still applicable. Mr. G. W. Thompson reports that the condition of the optic fundi has not altered, and Dr. Gilbert Scott finds that between February and November, 1915, no changes in the outlines of the sella turcica, as seen in the radiogram, have appeared.

Comments.—Obesity in young girls at and about the time of puberty is a normal phenomenon, but as to the factors at work in its causation little is known. In recent times, with the gradual increase in knowledge of some of the functions of the endocrinic system of glands, much speculation, based on slender foundation in fact and few adequate observations, has been published tending to incriminate alterations in the functions of the thyroid, the pituitary, the pineal, the adrenal, and the gonadic glands, and the interrelations of these, as the underlying factors in its causation. At puberty it is known that this system bursts forth into enormous activity. Is this girl an example of a rather severe obesity of the type which falls into Sir James Goodhart's class of "normal abnormalities"?

The association of obesity with epileptiform convulsions would seem to imply that both may have a single cause. Can this lie in the pituitary body or pineal gland? The distribution of the fat conforms more closely to the distribution seen in normal girls rather than that which is found in examples of dystrophia adiposo-genitalis due to sub-pituitarism, and, moreover, in this case secondary sexual characters in the hair and breasts are present, and menstruation, though irregular, occurs periodically. By our usual criteria no evidence of pituitary involvement can be demonstrated, and as far as I know pineal disease has never been associated with obesity.

Hypernephroma often occurs with precocious sexual or physical development and hirsuties, and is associated with obesity; in these patients the fat is distributed in a manner which recalls the obesity of an oldish man of alcoholic habit. The recurrent attacks of jaundice suggest the possibility of abdominal disease, but here again investigations of the abdomen and of the functions of the liver and pancreas have so far proved negative. At the present time no definite diagnosis can be made. The case has been reported in order to stimulate the collection of observations which may enable us to gain further insight into the causes of obesity in young people, a subject upon which the gaps in our knowledge are still so large.

THE CURE OF SQUINT.*

By N. Bishop Harman, M.A., M.B.Cantab., F.R.C.S.Eng.,
Ophthalmic Surgeon to the West London Hospital and to the Belgrave Hospital for Children.

(*Continued from* p. 7.)

II.—Treatment.

The treatment of squint has three distinct stages: (1) Balancing the vision of the eyes; (2) awakening of the fusion faculty; (3)

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* A paper read before the West London Medico-Chirurgical Society.

operation. These three stages are intimately connected, and follow out of each other. Not every case need go through the whole three stages, for cure may become evident during the first stage, and so eliminate the other two; but no case should reach the third stage of treatment without passing through the previous two.

Balancing of the Vision.

To secure an equal balance of vision in the eyes two courses must be followed. First there is the examination of the refraction of the eyes. Under complete cycloplegia, from the efficient administration of atropine, the refraction is worked out by retinoscopy, and glasses are ordered so as to exactly balance the eyes and to bring each to as nearly emmetropia as glasses can. That is a matter of routine, but much depends upon its skilful performance. It is evident that the whole determination must rest on the skill and judgment of the surgeon, for subjective methods are useless with children; indeed, they are impossible with an amblyopic squinting eye. The glasses must be worn constantly. It is never too early to begin. Infants under one year will wear glasses successfully. When their eyes are of such a type that glasses help them, they are as appreciative of the benefit as any adult. The wearing of the frames need cause no trouble, for by fixing them on by the method shown in the figure all difficulties are overcome.

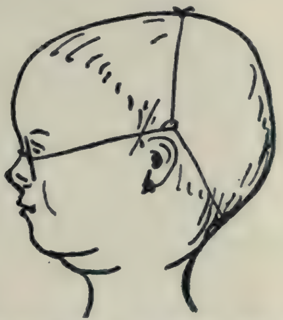

FIG. 1.—Author's method of securing spectacles. The bows end in large loops just above the meatus. A piece of tape is looped under the nucha, threaded through each loop of the glasses, and tied on the vertex.

The second part of this stage is the adoption of measures to revive the vision of the squinting eye. If the squint has existed for a year or two it is likely that the vision will be reduced seriously, even fixation may be lost. To reawaken the eye to its duties there is no better practice than that introduced by Darwin in 1778. The sound eye should be bound up for several hours each day so as to compel the use of the squinting eye. It is well to start by the complete occlusion of the sound eye for two or three weeks on end. In some cases the squint can be altered by this measure, as Mackenzie* noted; the fixing eye will become the squinting eye, and the squinting eye the fixing eye. This is a favourable result. Another means of securing continuous exercise of the squinting eye is gained by paralysing the accommodation of the fixing eye by the regular use of atropine. This compels the use of the squinting eye for the examination of near objects. It is only of value when there is some vision in that eye; and it is useful subsequent to complete occlusion, or when this is not well tolerated.

Awakening the Fusion Faculty.

This stage demands great patience, care, and critical judgment to bring into effect. It is an attempt to revive or call into activity the control of the brain over the eyes. The practice has been widely used in recent years, but in its inception it is as old as the preceding measure.

In 1778 there was published a most interesting paper by Dr. Erasmus Darwin,† the grandfather of Charles Darwin. He had a case of alternating squint to deal with, and concluded that the condition was not in any way due to defect of the eyes, but to the control over the eyes, "a depraved habit of moving the eyes." To check this he hit upon the device of the most modern stereoscopic contrivance. A brass gnomon was fixed to the nose of the child by means of a headband; this lengthened the nose some 2½ in., and cut off the fields of vision of the two eyes very considerably. He argued that now the child would use the right eye to see objects on the right side, and the left eye for objects on the left side, rather than turn his head round to see objects on one or other side according to the eye then in use. After a week he concluded there was some improvement in the state of the eyes. Then he proceeded to attempt the fusion of the images seen by the eyes. Before each eye a white-tipped wand was held, and by movements the two wands were placed so as to be seen separately by each eye. "As he viewed these they were gradually brought forwards beyond the gnomon, and then one was concealed behind the other. By this means, in another week, he would bend both his eyes on the same object for half a minute together. By the practice of this exercise, before a glass, almost every hour of the day, he became in another week able to read for a minute together, with his eyes both directed towards the same objects. By perseverance in the use of the artificial nose, he acquired more and more the voluntary power of directing both eyes to the same object, particularly if the object was not more than four or five feet from him."

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* 'A Practical Treatise on the Diseases of the Eye,' London, 1830, p. 252.

† 'Philosophical Transactions,' vol. lxviii, 1778, p. 86, "A New Case in Squinting."

That in brief is the most modern manner of the treatment of the fusion faculty. Javal, a distinguished French oculist, developed the stereoscope for this purpose, making the mirrors adjustable to the angle of the squint. Priestley Smith, of Birmingham, adopted for the same purpose two tubes pivoted in a frame. Now there are many fine instruments, tubular, combined tubes and mirrors, and the most perfect of variable stereoscopes, with sets of pictures that are a delight to the child.

Not only can we set these instruments to fit the angle of the squint, but the intensity of the two pictures can be modified to the known state of the eyes; a dull picture can be shown to the good eye and a bright one to the bad eye, so that the images are balanced or altered in favour of the bad eye. Practice with any form of these instruments must be guided by the surgeon, and his efforts must be seconded by assiduous practice by the parent. At first the effort is directed to getting the child to see the two images simultaneously, and that attained, to the more difficult task of keeping these images in view, even when the angle of the setting of the instrument is reduced to less than that of the squint. When either of these steps is certainly attained there is registered a great advance on the road to recovery, for we have assurance that brain control over the eyes can be reasserted under favourable conditions.

The exact value of the training of the fusion faculty that can be obtained by practice with these instruments is still a matter of debate amongst ophthalmic surgeons. Some believe it is possible to cultivate the faculty to a high grade of activity, so as to secure a reduction in the angle of the squint, even with half an hour's practice in the day. Others, and I include myself amongst these, believe that the influence of any practice must be proportional to its continuity, and that the stimulation of a faculty for a fraction of the visual life of the child cannot undo the vicious effects of its suppression by the squint for the rest of the day. But there is no doubt whatever that the method is of the utmost value in preparing the way for and assuring the success of the next stage of the treatment—operation.

If it were possible to adopt some such scheme as Darwin's "long nose" for continual use, then these measures might have a direct measure of success, but it must be remarked that even Darwin found his little patient discarded his device so soon as his oversight was withdrawn!

Before leaving these two stages in the treatment, emphasis must be laid on the necessity for early treatment if there is to be any real measure and hope of success. Everything depends upon getting the child before the brain control and the vision of the squinting eye are benumbed by disuse. The exercise of the squinting eye by occlusion or cycloplegia of the fixing eye may be begun at the earliest age. The use of stereoscopes may be begun so soon as the child can be amused by pictures, certainly at the age of three years. To leave these measures until the age of six, seven, or eight years of age, in the bare hope that the child may "grow out of the squint," is to render them well-nigh hopeless of success.

Operation.

In considering operation, four points come up for review. (1) The rational basis of such a procedure. (2) The best time for the undertaking. (3) The most reliable technique. (4) The prospects of ultimate success.

The rational basis for operation depends upon what we mean by the "cure of squint." If we have in view no more than the reduction of the deformity, then the rational basis for operation is no more than the objection of the parents or the child to the ugliness of the squint. But if we aim at a real cure our object is to once more put the eyes into such a position that the brain can resume control over their movements and fuse the diverse images it receives from them. That is, we aim at the restoration of binocular vision. Looked at from this point of view, operation is not only reasonable but necessary, and even urgent. For we do by operation permanently what the stereoscope can do temporarily. By the set of the stereoscope we can in effect temporarily correct the angle of the squint, by operation we undo the evil set of the muscles and so permanently correct the squint. In each case we can obtain conditions under which one image may be seen by each eye and carried to the fusion centre. A fixed squint is like an obstacle to the brain. It is something it cannot overcome because of permanent changes set up in the muscles of the squinting eye. In a convergent squint of any duration the rectus internus is found to be shortened and thickened, and the externus is stretched and thinned. These altered states are obstacles that cannot be overcome by training the fusion faculty; they can only be removed by our active interference. That is the rational basis of operation, the removal of the obstacle to a resumption of brain control.

The best time for operation is again affected by what we want to do. If we only desire to correct the deformity there is no urgency; the matter may be left to any convenient time. But if we aim at restoration of binocular vision, then operation should be advised so soon as we are sure of certain conditions. The effect of the correction of the vision by glasses must be watched; six months is sufficient for this. Meantime, the vision of the squinting eye must be exercised and tests for fusion commenced. If we can secure fair vision in the squinting eye, say $\frac{6}{18}$ or more, and there has been a definite recognition of the two images presented by any form of stereoscope, then the conditions are favourable for operation. We may readjust the tendons with every hope that our successful adjustment will be taken over and kept in order by the brain control. And the earlier this is done the better; in youth the restoration of habit is the easier, and a success is the more to be counted on.

On the other hand, if the child has reached the age of nine or ten years, and the vision of the squinting eye has been reduced to bare fixation or even less, and the attempts to recover the sight of the eye show a poor or no response, then operation can now only be done for cosmetique purposes, our highest aim is lost, and we can now only act as beauty doctors.

There are certain cases that fall into neither of these categories—cases of alternating squint. In many of these there is little or no error of refraction, the squint is altogether due to lack of brain control, and possibly to some disability in the muscle balance even though such cannot be proven. In these cases there is no suppressed vision to be regained, each eye sees well, practice with stereoscopes give poor results, and for these my experience leads me to advise operation at the earliest possible date. I have even operated on children under one year old. And for this reason, when a child squints from birth, the fusion faculty, supposing it to be present, gets no opportunity for development, for it is never brought into action, and in the lack of exercise it is as certain to become lost even as the vision of an eye with a fixed squint. Put the eyes straight by operation, and there is then every stimulus to exertion on the part of the fusion centre. Images of the same object are received from the two eyes, and the conditions are favourable for fusion if the possibility thereof exists.

(*To be continued*).

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, November the 26th, 1915.

The President, Dr. R. Hutchison, *in the Chair.*

Optic Neuritis, ? due to X-rays.—Dr. Edmund Cautley and Mr. N. Bishop Harman showed a boy, aged $8\frac{3}{4}$ years, one of three children, the others being healthy, He had had measles in infancy, diphtheria three years ago, and double otorrhœa last June. On July the 22nd he attended hospital for pains in the head of five to six months' duration. The pain was frontal, usually at night and preventing sleep, occasional during the day. He had been treated for ringworm by X-rays one week previously. When he was first seen there was marked neuro-retinitis. Vision, $\frac{6}{6}$. No paralysis. Some uncertainty, almost amounting to incoordination, in right hand, and tendency to point to the right with that hand. Sudden jerking or twisting of the limbs; jumpy but not clumsy. Gait and reflexes normal. July the 29th: Has had one attack of headache and vomiting. Superficial and deep reflexes active. Vision, $\frac{6}{6}$. September the 2nd: Has had no headache or vomiting, except for one sudden attack of pain across the eyes a few days ago. Normal reflexes. Hearing normal. No otorrhœa. Marked swelling and striation of optic discs. Vision, $\frac{6}{6}$. On September the 30th he was admitted as an in-patient. Since then he had had no headache or vomiting. Muscular control had recovered. In thirty-eight days he gained 54 oz. in weight, and, except for the eyes, he was apparently in good health. No focus of infection had been found; there was no tuberculous history, and the Wassermann reaction was negative. The action of the X-rays caused complete baldness, but the hair was growing again. According to the history the pains in the head began before the ringworm was treated.

September the 21st: Chronic optic neuritis in each eye. It is rather more marked in the right eye, the elevation of the disc being about 4 D., exceeding that in the left eye by 1 to 2 D. There is 1 D. of hypermetropia, as measured by retinoscopy, at the macula of each eye. In the left eye there are a few small spots of exudate between the disc and macula. The degree of intensity is more marked in the right eye, but, as far as the age of the neuritis could be judged, there is no appreciable difference between the two eyes. Vision: Right, $\frac{6}{9}$; left, $\frac{6}{5}$. October the 5th: Right swelling only 2 D., disc distinctly clearer; vision, $\frac{6}{12}$. Left eye shows much more swelling; elevation 6 D.; vision, $\frac{6}{36}$. No exudate seen. The eye conditions are not sufficient to determine the primary disorder. October the 12th: Neuritis beginning to subside. Right swelling 2 to 3 D.; vision, $\frac{6}{9}$. Left swelling 5D.; vision, $\frac{6}{18}$ slowly. October the 19th: Right swelling 2 D.; vision, $\frac{6}{9}$. There is now exudate in the macular region, distributed in a roughly radiate fashion. Left swelling 3 D., suspicion of commencing exudate in macular region; vision, $\frac{6}{60}$. October the 26th: Right unchanged. Left slightly less swollen; vision, $\frac{6}{24}$. November the 2nd: Right swelling under 2 D., disc a fair colour; vision, $\frac{6}{5}$. Left swelling 2 D., disc looks like becoming atrophic; vision, $\frac{6}{36}$. November the 9th: Right swelling diminishing, vessels of new formation clearer; vision, $\frac{6}{6}$. Left disc whitening, shrinking of inflammatory deposit on the disc; some small fresh spots of exudate between the disc and macula, like those seen on September the 21st; vision, $\frac{6}{18}$, attempts. November the 16th: The swelling in each eye disc is 1 D. or less. The right disc has a fair colour, but is ragged; vessels of a good contour; vision, $\frac{6}{6}$. Left disc white and ragged; vision, $\frac{6}{24}$. The eyes presented throughout the signs of a pure neuritis. The fluctuation in the degree of swelling, and the changes in the fundus generally, gave no clue to its origin. On no occasion had there been any tenderness on pressure or photophobia.

Case of Friedreich's Disease.—Dr. EDMUND CAUTLEY showed a boy, aged 10 years, the seventh of nine living children, two sisters being younger than the patient. Three children were dead. Four years ago he fell about 6 ft. and injured his head. His gait was said to have been affected a month later. He was intelligent and in Standard II.

On admission to hospital his gait was somewhat ataxic, and he walked with his legs wide apart. The knee-jerks were absent, and there was an extensor reflex of the big toes. There was very marked pes cavus, with some equinus. The grasp was stronger on the right side, and there were somewhat claw-like movements on prehension. There was no nystagmus, and the fundi were normal. The boy was somewhat unsteady with the eyes shut. Wassermann's reaction negative. He had improved in general health, had gained weight, and in control of his muscles since admission.

Case of (?) Myositis.—Mr. A. S. BLUNDELL BANKART showed a girl, aged 12 years. She first noticed swelling of right thigh on July the 12th, 1914, and said that it felt "tight" when she sat down. No history of any previous illness. Occasionally had "rheumatic" pains. Had been taking active part in games and training for school sports, but was not conscious of any strain or other injury. Four brothers, aged 14, 10, 5, and 3 years respectively, all quite well. No history of paralysis or myopathy in family. The patient was first seen on July the 14th, 1914. Right thigh and calf obviously larger than left. Swelling rather firm and (?) a little tender on deep pressure. No pain. Circumference of right thigh, 13½ in.; left thigh, 12 in.; right leg, 10½ in.; left leg, 9 in. Musculature of upper extremities and trunk rather poorly developed, but equal on two sides. No atrophy of hand, arm, scapular muscles, or elsewhere. No weakness. All movements of trunk and limbs performed normally. No lordosis or scoliosis. No nystagmus or strabismus. Reflexes normal. Electrical reactions normal. X-ray of right thigh showed nothing abnormal.

During the last seventeen months the condition had remained unchanged. The right thigh and calf had increased in size, but not disproportionately. Also, the swelling was a little softer than it was at first. There was no disability of any kind. The child still occasionally complained of "rheumatism" in the right thigh.

Case of Congenital Word- and Letter-blindness—Alexia Congenita.—Dr. T. R. Whipham (*v.* p. 33).

Case of (?) Juvenile Tabes.—Mr. Sydney Stephenson showed a boy, aged 9 years, first seen on August the 24th, 1915. His sight had been noticed to fail during the last month. The father, when aged 37 years, developed fits, and had had two such "fits" during the past twelve months. The mother enjoyed good health. Two miscarriages and six children born at term, five of whom were still alive. Patient was the second in the family. On admission: The pupils were equal and active to light. Right vision, $\frac{3}{60}$ and No. 16 J. Left vision, $< \frac{1}{60}$ and $<$ No. 20 J. Both optic discs were pale, but without signs of past neuritis. The retinal vessels were of fair size. No changes in gait. Intelligence quick. No history of pains in legs or arms, or of sphincter trouble. No loss of sensibility in lower limbs or about face. The knee-jerks could not be elicited, even on re-enforcement. No clonus, Babinski's, or Romberg's signs. No personal evidence of syphilis. Wassermann reaction negative. Treatment and progress: Potassium iodide, 5 gr. twice a day. Two weeks later: Right vision, $\frac{5}{36}$ and No. 12 J.; left vision, $< \frac{1}{60}$, and later (October the 11th, 1915) to four doses a day and $<$ No. 20 J. The iodide was increased on September the 7th to three doses a day. When examined on October the 12th last, the condition was as follows: Pupils, 3·5 mm. Both reacted to light, but the right better than the left, and the contraction of the former was much better maintained. Right vision, $\frac{6}{60}$ and letters of No. 6 J ; left vision, $< \frac{1}{60}$ and letters of No. 20 J. The retinal vessels appeared to be shrinking. The pallor of the optic discs remained apparently without alteration.

Case of General Tremor and Left Cortico-Spinal Interference. Lesion of the Mesencephalon.—Dr. E. G. Fearnsides.—The patient was a fairly well-developed child, aged 4^3 years. There were no abnormal signs in the heart, lungs, abdomen, or urine. The temperature and the rate of the pulse had been normal throughout. With every attempt at movement a dynamic tremor of the head, trunk, and upper extremities occurred; this was greater in the left upper extremity than elsewhere. Muscular tone was not grossly affected, and there was no muscular wasting. Ocular movements were normal and nystagmus was not present. The pupils reacted normally. The face was somewhat asymmetrical in movement, and there appeared to be some slight right facial weakness. The tongue, on protrusion, came out straight. The ocular fundi appeared normal. Hearing was not affected, and there was no otorrhœa. The knee-jerks were obtained, ankle-clonus was not present, and the plantar response on the right side was flexor, on the left indefinitely extensor. The abdominal reflexes were obtained. The sphincters were relaxed incontinently. The hands and feet were always cold, blue, and tended to be sodden. The patient was intelligent but irritable, and cried when approached. Speech was somewhat jerky and explosive. Under observation she had improved considerably.

Case of Anterior Poliomyelitis affecting the Distal Portion of the Left Upper Extremity.—Dr. E. G. Fearnsides.—The patient was a girl, aged 8 years. At the age of 9 months she suffered from an acute illness which affected the left upper extremity. At the present time she showed a general regression and atrophy of this limb affecting chiefly the muscles supplied by the eighth cervical and first thoracic spinal segments. Movements at the left elbow were paretic, and the joint itself could not be fully straightened. The left wrist was flail-like, and the fingers of the left hand were unaligned. All the small muscles of the left hand were poorly developed. The muscles on the flexor surface of the left forearm were better developed on the outer than the inner side, and than those of the extensor surface. The knee-jerks and ankle-jerks were unaffected, and both plantar reflexes gave a flexor response. The abdominal reflexes were normal.

Case of Polio-encephalo-myelitis.—Dr. LEONARD GUTHRIE.—The patient, a girl, aged 5 years, was taken ill in March, 1914, with sore throat which lasted three days and was followed on the fourth day by measles. The sore throat was attributed to diphtheria, but this diagnosis was doubtful. Ten days later she became unconscious without any convulsions, and sweated profusely. For three weeks she did not speak, and the only sign of consciousness shown was that her eyes would follow a lighted match. She then gradually came round, and six weeks after the commencement of the illness she attempted to speak, but could only say "Dad" and "Mum." Previously she had spoken fluently. The voice was not nasal, and there was no regurgitation through the nose. At the same time her eyes became "turned," and when she tried to sit up she "flopped." Gradual improvement occurred, and by November, 1914, she could stand when supported, and could walk about the room holding on to chairs. She could now say any words and express herself distinctly, but speech was slow and drawling. Since November, 1914, she had made but little progress.

Condition on admission (November the 1st, 1915): A well-nourished child. The face lacks expression, but intelligence is not defective. Eyes: There is marked internal strabismus of the right eye. The left eye is also at times diverted strongly inwards. Pupils are equal, reaction, discs and fundi are normal. No paralysis of other cranial muscles, but slight weakness of lower left face. Speech is slow and hesitant, but articulation is clear. She is mostly taciturn, but at times talks volubly and to the point. Upper extremities: Some quasi-voluntary "pawing" movements are noticeable in the right arm, and also at times there are coarse involuntary tremors on both sides, but voluntary movements are fairly well co-ordinated. The muscles are not wasted nor weakened. A slight degree of hypotonia is present in fingers and wrist. There is no rigidity, and the arm-jerks are not exaggerated. The involuntary movements have decreased considerably since admission to hospital. Lower extremities: Wasting and rigidity are absent, and also hypotonia. Knee-jerks are absent on both sides. Ankle-clonus is absent. Plantar response is extensor (Babinski type). Equilibrium: She can stand alone but sways slightly in all directions, though chiefly backwards after a few moments. Gait is halting and unsteady, and the right leg is often abducted at the hip in order to secure a wider basis. She cannot walk alone for more than a few steps without swaying backwards or from side to side, and would frequently fall if not supported.

Single Pelvic Kidney.—Dr. J. D. ROLLESTON showed a specimen from a mentally defective boy, aged 14 years, who died of septic scarlet fever on the eleventh day of disease. There was a trace of albumin in the urine during the nine days that he was in hospital, but there were no other renal symptoms. Post mortem no kidneys were found in the usual situation, but on the right side and within the brim of the pelvis was a single kidney, lying in apposition to the posterior wall of the bladder. Its shape was irregular and by no means reniform. The surface was lobulated. The organ measured 3¼ in. long by 1¾ in. broad at its upper part and 2⅝ in. in its lower part, and 1 in. thick. The weight was 4 oz. The hilus was situated anteriorly, and from it issued a single ureter, considerably dilated and hypertrophied, which measured 7½ in. long, ½ in. broad close to the kidney, and 1 in. broad at its widest part 1¼ in. above the bladder. At the lower end it became narrow again, and the lumen of the vesical end barely admitted a pin's head. No trace of a left kidney or ureter could be found. There was no malformation of the genital organs nor other obvious abnormality.

Polydactyly and Deformity of the Right Leg.—Dr. Edmund Cautley showed a specimen from a girl, aged 6 months, who weighed only 6½ lb. three days before death from zymotic enteritis. She was the fifth child, and her mother had had one miscariage. There was no family history of deformity. The right foot and leg showed the following conditions: The leg was shortened and curved, and the foot had seven toes. On the inner side of the great toe were two toes, identical in appearance with normal second and third toes. The second and third toes were closely united, almost to the proximal end of the terminal phalanges. Similarly, the skiagram showed metatarsals and phalanges of the extra toes practically identical with those of the normal second and third toes. There was no fibula, and the tibia was very much curved. The left foot closely resembled the right in appearance, presenting similar extra toes, but united up to about the middle of the second phalanges. The normal second and third toes were also united for about the same extent.

Congenital Hydronephrosis.—Dr. E. C. Williams showed a specimen from a male infant, aged 6 months, admitted to hospital as a case for operation. On admission there was marked intestinal peristalsis. The ureters could be felt on either side, and the right one resembled an intussusception. There was almost complete suppression of urine. Death took place forty-eight hours after admission. Both ureters were the size of the small intestine, and the bladder was much hypertrophied. There was no demonstrable food in the urethra to cause obstruction.

Congenital Syphilis.—Dr. C. O. Hawthorne showed specimens from a boy, aged 1 year 7 months. He had been in good health till July, 1915, when he had a "stroke" affecting the left side. On admission to hospital in November, 1915, he had no physical signs beyond considerable enlargement of the liver, and with his anæmia (Hb. 50 per cent., reds 3,240,333, whites 19,600, with relative excess of lymphocytes), and a positive Wassermann test.

There was considerable cystic formation in the lower right parietal cortex, extending deeply. There was also evidence of disease in liver, kidneys, and lungs, and an adherent thrombus in the left ventricle.

Abstracts from Current Literature.

Acute Infectious Diseases.

Diphtheria in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—6591 cases were admitted in 1914, as compared with 5076 in 1913 (*v.* British Journal of Children's Diseases, 1915, xii, *p.* 18). Exclusive of purely bacteriological cases, the percentage mortality was 8·2. The total percentage mortality at all ages was 8·9 for males and 7·5 for females. Under 1 year the percentage mortality was 36·6 for males and 26·7 for females. On 266 tracheotomy, on 53 intubation, and on 20 both operations were performed, among whom there were 93, 5, and 8 deaths respectively. The percentage error in cases admitted was 11·4. Among 919 wrongly certified as diphtheria were 633 of tonsillitis, 72 of laryngitis, 11 of rhinitis, and 17 of broncho-pneumonia; 27 had no obvious disease, or were not diagnosed. Paralysis occurred in 8·76 per cent, albuminuria in 23·30 per cent., otitis in 4·07 per cent., serum rashes in 32·94 per cent., joint pains in 4·93 per cent., and abscesses at the injection site in 0·53 per cent. 288 cases, or 4·65 per cent., contracted scarlet fever; 50, or 0·80 per cent., chicken-pox; 26, or 0·42 per cent., whooping-cough; and 18, or 0·29 per cent., measles. J. D. Rolleston.

Nasal diphtheria and its complications (*'Riv. di Clin. Pediat.,'* 1915, XIII, *p.* 448).—**G. F. Randegger** reports the case of a boy, aged 3½ years, who, after an attack of measles from which he rapidly recovered, began to suffer from nasal obstruction with a muco-purulent discharge mixed with blood, which lasted two months and was complicated with serious nervous symptoms, viz. paralysis of the palate, orbicularis palpebrarum, and muscles of the neck and trunk, strabismus, paresis of the lower limbs and anal sphincter, absence of deep reflexes, and diminution of sensation to painful stimuli. There followed a condition of profound depression, progressive somnolence, tremors of the limbs, contracture and hypertonus, more marked in the left limbs, and left facial paralysis, Babinski and Kernig's signs. Loeffler's bacillus was found. The case is of interest owing to the rarity of the hemiplegic form of diphtheritic paralysis which must be attributed to a diffuse meningo-encephalitis of toxic origin supervening on an ordinary post diphtheritic polyneuritis, and situated mainly in the Rolandic area and especially in its two lower thirds. Vincent Dickinson.

The use of the Schick test in a children's institution (*'Boston Med and Surg. Journ.,'* 1915, CLXXIII, *p.* 427).—**H. Linenthal** and **S. H. Rubin.**—Of 126 children in a Jewish Home, aged from 5 to 16 years, 36 were found susceptible to diphtheria and 90 immune. 750 units administered to the former produced an immunity which did not last over 4 weeks in 50 per cent., in several lasted 8 weeks, and in 6 persisted after 5 months. With the exception of these 6 children and of 1 child who gave a negative reaction the first time and a positive reaction the second time, the results of two tests 5 months apart were uniform. The writers regard the test as of great value in determining susceptibility to the disease, and thus indicating who should and who should not receive prophylactic injections of diphtheria antitoxin.
J. D. Rolleston.

Observations on the intracutaneous reaction of Schick (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 1010).—**R. D. Moffett** and **A. C. Conrad** give the results obtained in 455 infants and children in whom the Schick test for diphtheria was employed. The evidence thus obtained confirms the value of the reaction. (*Vide* British Journal of Children's Diseases, 1915, XII, *pp.* 243, 244.) T. R. Whipham.

Scarlet fever in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—22,066 cases were admitted in 1914, as compared with 15,010 in 1913 (*vide* British Journal of Children's Diseases, 1915, XII, *p.* 19). The mortality was 1·4 per cent. The percentage error of diagnosis was 5·3. Among 1227 wrongly certified as scarlet fever were 143 of German measles, 31 of chickenpox, 28 of lobar pneumonia, 250 of tonsillitis, and 288 of erythema; 276 had no obvious disease and were not diagnosed. The commonest complications were otitis (8·10 per cent.), albuminuria (6·97 per cent.), secondary adenitis (4·78 per cent.), rheumatism

(2·51 per cent.), and nephritis (2·38 per cent.). 379 cases, or 1·79 per cent., had relapses; 431, or 2·05 per cent., contracted diphtheria; 368, or 1·83 per cent., chickenpox; 125, or 0·59 per cent., measles; and 117, or 0·55 per cent., whooping-cough. J. D. Rolleston.

Postscarlatinal rheumatoid arthritis in a child (*'Arch. de Méd. des Enf.,'* 1914, xvii, *p.* 603).—**Savariaud** and **Chapotel.**—A boy, aged 11 years, without rheumatic antecedents, in convalescence from an ordinary attack of scarlet fever, developed subacute arthritis accompanied by deformity, wearing away of the bony extremities, and deviation of the fingers, without ankylosis properly speaking. Improvement took place from purely local treatment. The writers allude to three other published cases occurring in adults in whom rheumatoid arthritis had followed an attack of scarlet fever in childhood. J. D. Rolleston.

Measles in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—770 cases were admitted in 1914, as compared with 3400 in 1913 (*v.* British Journal of Children's Diseases, 1915, xii, *p.* 21). The relatively high mortality (9·1 per cent.) was due to the fact that admissions are still limited to the children of the poorest classes and to urgent and necessitous cases recommended by medical officers of health. Among 45 wrongly certified as measles were 17 of German measles, 7 of erythema, and 6 with no obvious disease. The commonest complications were broncho-pneumonia (16·19 per cent.), otitis (8·29 per cent.), albuminuria (3·34 per cent.), and enteritis (0·93 per cent.); 21 cases, or 2·81 per cent., contracted diphtheria; 10, or 1·33 per cent., chickenpox; and 7, or 0·93 per cent., whooping-cough. J. D. Rolleston.

Immunisation against measles (*'Arch. of Ped.,'* 1915, xxxii, *p.* 503).—**C. Herman**, convinced from a large number of personal observations that infants under 5 months were utterly immune to measles (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 246), inoculated 40 infants from 2½ to 5 months old with nasal mucus taken from otherwise healthy children twenty-four hours before the measles eruption appeared. He assumed that, as the infant at that age was not absolutely immune, direct inoculation would convert a temporary into a more or less permanent immunity. The inoculations were made by gently applying swabs on which the mucus was collected to the nasal mucous membrane. The majority of the infants showed no distinct reaction. Fifteen had a rise of temperature varying from 100° F. to 101° F. between the eighth and the fourteenth days. In a few cases a small number of spots were noted on the face and body between the fourteenth and eighteenth days. Of the 40 cases inoculated, 4 over 1 year have since come in intimate contact with cases of measles and have not contracted the disease. Another 2 were re-inoculated at the age of 21 and 23 months respectively, with negative results in each case.

J. D. Rolleston.

Rubella in Children (*'Arch. de Méd. des Enf.,'* 1915, xviii, *p.* 293).—**J. Comby** gives short histories of 132 personal cases: 69 were boys, 63 girls. Rubella is rare below 2 years (5 cases), and above 15 (12 cases). It is most frequent between 2 and 15, and especially 5 and 10. It occurs in small epidemics, which are most frequent in spring and summer. Its contagiosity is less than that of measles. Relapses are exceptional. Second attacks may often be explained by errors in diagnosis. The incubation period is very long. Comby has had cases in which it has been 16, 17, 18, and even 20 days. In 72 cases the eruption was morbilliform, in 26 scarlatiniform, and 26 mixed. The scarlatiniform variety is not a distinct or fourth disease, as Dukes claims; it is merely a variety of rubella that may be produced by either of the other two forms, and may in turn give rise to them. The face has often (35 cases) a crimson appearance, the intensity and persistence of which are characteristic, and contrast with the pallor of the eruption on the rest of the body. The rash rarely lasts more than 1 or 2 days. Desquamation is absent or slight. Enlargement of the glands is not constant. It was present in 70 of the 132 cases. The prognosis is favourable. There are no complications. A week's isolation, as a rule, suffices. J. D. Rolleston.

A case of hæmorrhagic chickenpox (*'Canadian Med. Assoc. Journ.,'* 1915, v, *p.* 610).—**D. G. Campbell** records a case in a previously healthy female infant, aged 5 months. A few spots first appeared on February 25. Two days later the temperature rose to 102·2° F., but fell to normal in twenty-four hours. On March 2 it rose again to 102° F. and remained up till shortly before death. On March 3 the eruption became hæmorrhagic, the pustules forming the centre of a purple area ¼ in. in diameter. Slight discharge of blood from the vagina occurred at the same time, and at intervals throughout the morning there was epistaxis. In the evening sharp hæmorrhage occurred from the mouth and nose, fully 6 oz. being lost. At 9 a.m. on March 4 the child had a normal stool with a good deal of tarry blood, but no fresh hæmorrhage. Death took place 2½ hours later, 27 hours from the onset of the hæmorrhagic symptoms. Post mortem a few fine subperitoneal, subpleural, and subpericardial hæmorrhages were found as well as a few hæmorrhages in the gastric mucosa and at the base of the brain. Both middle ears and external auditory canals were filled with clotted blood.

J. D. Rolleston.

Whooping-cough in the Metropolitan Asylums Board Hospitals (*'M. A. B. Report,'* 1914).—736 cases were admitted in 1914 as compared with 1044 in 1913 (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 23). The fact that only poor children were admissible probably accounted for the high mortality rate of 11·8 per cent. Among 30 wrongly certified as whooping-cough were 10 cases of bronchitis, 3 of broncho-pneumonia, 2 of general tuberculosis, and 11 with no obvious disease. The commonest complications were broncho-pneumonia (11·47 per cent.), otitis (6·52 per cent.), convulsions (2·69 per cent.), albuminuria (0·89 per cent.), and stomatitis (0·56 per cent.). Thirty six cases, or 4·04 per cent., contracted measles; 15, or 1·68 per cent., scarlet fever; 10, or 1·12 per cent., diphtheria; and 14, or 1·57 per cent, tuberculosis.

J. D. Rolleston.

A protective therapy for mumps (*'Amer. Journ. Dis. Child.,'* 1915, x, *p.* 99).—**A. F. Hess,** during an epidemic of mumps in an infant asylum, inoculated seventeen children, aged from 1½ to 5½ years, with the blood of those who were just recovering from or had recently had mumps. Whole blood was used after being aspirated in the usual way, and was injected at once intramuscularly without there being any need to add an anti-coagulant. There was no rise of temperature or local reaction, and none of the seventeen children contracted the disease, though in the wards where the children were not protected fully a third or even a half were attacked. J. D. Rolleston.

Acidosis in a case of typhoid fever (‘*Dub. Journ. Med. Science,*’ 1915, II, *p.* 130).—**A. R. Parsons** reports the case of a boy, aged 11 years, who was rickety almost from birth, and was admitted to hospital as probably a case of Friedreich’s ataxia. He had difficulty in walking, and swayed from side to side. There was no nystagmus, and the knee-jerks were only slightly exaggerated. On the third morning after admission a marked change was noticeable. He was stupid, cold, and his hands were bluish ; he also vomited. It was thought that he was suffering from acidosis, and on examination of the urine an amount of aceto-acetic acid and acetone was discovered. Next evening his respirations were laboured. He was cold, barely conscious, and the clinical picture was like that of a boy in diabetic coma. The fundus was examined and found to be perfectly normal. Next morning, a sweet odour from the breath was noticed. On free administration of alkali by the mouth the lad gradually recovered, and after some days the aceto-acetic acid and acetone disappeared from the urine. An attempt was made to get him to walk, but he was very weak on his limbs. After three or four weeks in hospital the temperature, which was previously normal, rapidly rose, and then he died. In the same ward there had been three cases which developed typhoid fever, and when the post-mortem examination was made, evidence of typhoid was found. There was marked enlargement of the solitary gland and the typhoid bacillus was isolated from the spleen. There were two points of interest in the case, viz., for a boy of eleven who had never taken vigorous exercise, the heart was very large and his liver was also enlarged. No explanation of the acidosis in the first instance was forthcoming. In the second instance it might have been a febrile acidosis. J. ALLAN.

Undulant fever in children (‘*La Pediatria,*’ 1915, XXIII, *p.* 561).—**O. Cozzolino.**—Besides the usual infection by goat’s milk, bites from insects, contamination through the respiratory organs of “carriers,” and through the mother’s milk must be taken into account. The prognosis is good as a rule. Cozzolino recommends vaccination with cultures of Bruce’s micro-organism, intravenous injections of 1 per cent. solution of corrosive sublimate —1 to 2 c.c.—alternate days, and intramuscular injections of 10 per cent. electrargol. VINCENT DICKINSON.

Epidemic cerebro-spinal meningitis (‘*Lancet,*’ 1915, I, *p.* 964).—**F. E. Batten** briefly discusses experimental work, epidemiology, clinical features, diagnosis, and treatment of this disease. The methods of treatment dealt with are : (1) Lumbar puncture ; (2) intrathecal injection of serum ; (3) treatment with soamin ; (4) vaccine treatment. J. ALLAN.

Cerebro-spinal fever (‘*Practitioner,*’ 1915, XCIV, *p.* 831).—**E. Milligan,** when house-physician at Belfast Fever Hospital, saw 300 cases of this fever and describes his experiences. About 79 per cent. were under 20 years of age. Incubation period seems to be about three days. The onset is sudden, with headache, vomiting, followed by stiffness of the neck and back and legs, with rapid unconsciousness. Ninety per cent. of the cases began in this way. The lowest temperature noted was 96° F. and the highest 107·6° F. The pulse was slow in the rapidly fatal cases. Herpetic and purpuric rashes are the commonest. Herpes was most common on the lips and came out usually before the fifth day. Desquamation occurred only twice in 255 cases. In some cases the patient would be delirious and suddenly become sensible. Hyperæsthesia was marked. A frequent position was to be curled up in bed. Hydrocephalus was present in a large number of children who lived long enough. The skin was cyanotic and the circulation sluggish. The respirations in the acute cases were very rapid; bronchitis was present in nearly all the acute cases. The glands were generally enlarged. Retention of urine was frequent. The mouth and throat were usually foul. Emaciation was rapid. The points of importance in diagnosis are sudden onset with headache and vomiting, rigidity of the neck, Kernig's sign, delirium, and coma. The only treatment of real value is the injection of Flexner and Jobling's serum intraspinally. Not more than 35 c.c. should be given at one dose. The death-rate without serum was 85·2 per cent., with it 26·6 per cent. The serum should be given early. Prognosis: Out of 74 children under five years 61 died. The duration of the disease is generally under eight days. Those under one year have less chance of recovery than those above that age. F. R. B. ATKINSON.

Note on a case of cerebro-spinal meningitis (*'Lancet,'* 1915, I, *p.* 967).—**H. J. Alford** reports a fatal case of cerebro-spinal meningitis in a boy, aged 9 years, notified to him on March 2, 1915. On making inquiries, he found that the boy's elder brother had returned from Deal (on his discharge from the Army) on February 13. He complained of feeling ill, with pains in his head and limbs, and he went to bed, sleeping in the same bed as his younger brother already mentioned. In about a week he felt quite well and returned to work. On March 31, the author took a swab from his naso-pharynx and the laboratory report was only "meningococcus present." The case is interesting as showing, that although the germ will live a few hours on the swab, it may do so for at least two months in the naso-pharynx. The organism, therefore, possesses considerable tenacity.
J. ALLAN.

Prophylactic vaccination against epidemic meningitis (*'Journ. Amer. Med. Assoc.,'* 1914, LXIII, *p.* 2126).—**J. H. Black,** from experiments with meningococcic vaccine upon students, concludes that prophylactic vaccination produces a high degree of immunity in most cases, this immunity being demonstrable at the end of two years. It seems a justifiable conclusion that most persons prophylactically vaccinated may safely consider themselves immune for at least two years. Exceptions to this will, of course, be found. Some individuals may show an actual increase in immune bodies at the end of one year over those demonstrable soon after vaccination. Fixation occurred with the serum of the positive control who has recovered from meningitis, but this fixation did not reach as high dilutions as did that of some of those vaccinated. This has previously been found also in some others recovered from the disease. Experimental evidence warrants us in concluding that prophylactic vaccination is a measure of the greatest value in the control of epidemic meningitis. T. R. WHIPHAM.

Epidemic poliomyelitis (*'Journ. State Med.,'* 1915, XXIII, *p.* 243).—**W. E. Henderson** gives his experiences and impressions of an epidemic in Westmorland. Of a total of 51 cases, 29 occurred in children under 9 years of age. Viewing the epidemic as a whole, the most universal and striking feature in the clinical picture was the severe pain complained of on passive movements of the affected limbs. The next greatest common symptom was the complaint of weariness, associated in many cases with drowsiness. Gastro-intestinal symptoms were almost entirely absent. Children, adolescents, and adults, otherwise the most robust were attacked, not a few of them in wealthy homes. No one who has been through an epidemic can quite forget the sight of strong athletic adults mortally stricken with this disease. The victim fights for breath as the centres governing respiration become involved and perishes from respiratory failure while the mind remains clear to the end. And then there is the pathetic wreckage that poliomyelitis leaves in its wake. Of the 51 cases, 21 are permanently paralysed in groups of muscles in one or more limbs. Regarding administrative action the author thinks that however hazy our ideas may be as to the epidemiology of this disease, it is wise in the public health interest to look upon poliomyelitis as a contagious disease and to treat it as such. The measures adopted were as follows: Notification to the central authority; isolation either at home or in hospital; disinfection was carried out in the homes; children from infected homes were excluded from school; the school teachers were supplied with a leaflet of instructions; the doctors practising in the county were supplied with information as to the main features of epidemic poliomyelitis as distinguished from cerebro-spinal meningitis, and they furnished reports on special clinical forms supplied to them; the disease was made a notifiable one within the affected areas. The County Clinical Club (composed of the practising doctors) met to discuss the disease in all its aspects. The use in abortive cases and contacts of a nasal and throat spray containing a solution of potassium permanganate was advocated. J. ALLAN.

A third outbreak of epidemic poliomyelitis at West Kirby ('*Lancet*,' 1915, I, *p.* 67).—**G. Jubb** gives notes of four cases, and briefly discusses the distribution of cases and the possible sources of infection.

J. ALLAN.

A second attack of infantile paralysis ('*El Siglo Med.*,' 1915, LXII, *p.* 530).—**F. Sanz** records a case in a woman, aged 37 years, who had her first attack at the age of one year, when her left leg and foot muscles were paralysed and atrophied, and the second attack at the age of fifteen, when her right leg and foot were involved. Both attacks were characterised by rapid onset, acute course, and general symptoms of infection. At present the patient has complex loss of motor power in both legs and feet, with flaccidity and atrophy of the paralysed regions. The feet are fixed in a position of marked equino-varus, and are intensely cyanotic. The knee-jerks and plantar reflexes are absent. Sensation is normal.

J. D. ROLLESTON.

Infantile paralysis of the small muscles of the hand ('*Med. Journ. of Australia*,' 1914, I, *p.* 347).—**W. F. Litchfield.**—A girl, aged 12 years, was suddenly taken ill with fever, and two days later lost the use of her right hand. When seen by Litchfield ten weeks later the thenar and hypothenar eminences were wasted, the fingers could not be moved except for very slight flexion at the tips, the wrist could neither be flexed nor extended, pronation and supination of the forearm was very weak; flexion of the forearm was strong, but extension weak; the deltoid and muscles of the shoulder girdle were not affected. There were no sensory changes. Three months after the onset the only improvement noticed was some increase of power in the triceps. J. D. ROLLESTON.

Acute poliomyelitis with involvement of the abdominal muscles ('*Rev. Med. Arg.*,' 1914, XXII, *p.* 1021).—**A. Gareiso** records four cases in children aged from two months to three years in which monoplegia or paraplegia was associated with paralysis of the abdominal muscles of the right or left side simulating a ventral hernia. J. D. ROLLESTON.

Anterior poliomyelitis with multiple paralyses including the hitherto unrecorded involvement of the left diaphragm (*'Boston Med. and Surg. Journ.,'* 1915, CLXXIII, *p.* 429).—**P. Sylvester.**—A boy, aged 4 years, developed infantile paralysis of both legs and simultaneously paralysis of the left half of the diaphragm. The latter condition was not recognised at first, as the child developed pneumonia in which the lung expanded and pushed the diaphragm down and the resulting dulness masked any signs referable to the diaphragm. It was a long time before complete resolution took place. The diaphragm was then pushed up by the gas in the intestine and the true condition was revealed. **Smith Ely Jelliffe** (*ibid., p.* 525) points out that the complete and unilateral involvement of the diaphragm in poliomyelitis has been described, and refers to the description and literature in Jelliffe and White's ' Diseases of the Nervous System,' p. 312.

J. D. ROLLESTON.

Treatment of infantile paralysis (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 2118).—**R. W. Lovett** gives an analysis of the Vermont epidemic of 1914, consisting of 149 cases. He finds that paralysis of leg muscles is much more frequent than that of arm muscles Abdominal paralysis existed in more than half of all the cases, and the muscles of the spine were affected in more than a quarter. The cases of abdominal paralysis were all symmetrical except two. This paralysis may occur as the only one in the entire muscular system, but when it is associated with paralysis of other parts the association is always with leg muscles. The tibialis anticus and gastrocnemius were the only leg muscles found to be affected by themselves, without paralysis occurring elsewhere in the body. Deltoid paralysis may occur alone in the arm. The investigation of paralysis of the arm showed (1) that the paralysis was most frequent and most severe at the shoulders, and diminished in frequency from the shoulder to the hand ; (2) that the left arm was very much more frequently affected than the right; (3) that arm paralysis which is strictly regional is more severe than arm paralysis which exists in combination with more general paralysis. With regard to paralysis of the muscles of the lower limb the following facts were observed: (1) The paralysis was more frequent at the hip, and diminished in frequency toward the foot; (2) the paralysis was lightest in the hip, next lightest in the thigh, and severest in the lower leg; (3) the right and left leg were affected about equally. As regards treatment, stress is laid on the possible ill-effects of over fatigue and the over use of massage on returning muscular function.

T. R. WHIPHAM.

Dermatology and Syphilis.

Elephantiasis in a child, aged 12 years (*'La Med. de los Niños,'* 1915, XVI, *p.* 105).—**C. S. de los Terreros.**—The case was of interest for two reasons: (1) Elephantiasis is not frequent in children. (2) It is relatively rare in Europeans. The patient was a native of Toledo in Spain. The whole of the left lower limb, the external genitals, and a crescentic area above them and the groins, with its concavity upwards, were affected. There was also a slight degree of œdema of the right leg. Examination of the blood showed a neutrophile polynucleosis, but no filaria embryos. The urine was negative The boy had undergone an operation for phimosis about three years previously and some micro-organisms had probably obtained entrance through the wound and given rise to lymphangitis, which was succeeded by sclerosis and atrophy. Considerable improvement resulted from the treatment, which consisted in keeping the limb horizontal and firmly bandaged, except when it was massaged from the extremity upwards for half an hour twice daily, in electrical vibratory massage twice a week, and in increasing doses of iodide until symptoms of iodism were well marked. The electrical massage was subsequently replaced by injections of fibrolysin every two days.

J. D. Rolleston.

Pellagra in childhood (*'Am. Journ. Med. Sci.,'* 1915, cxlix, *p.* 859).—**F. C. Knowles** reviews the literature (*v.* British Journal of Children's Diseases, 1912, ix, *p.* 328, and 1913, x, *p.* 40) and records a case in a boy, aged 5 years, admitted to hospital for an eruption on his face and hands. He had a marginated, dull red dermatitis on the hands, face, and rims of the ears. He had had several attacks of this dermatitis, beginning in early spring and lasting through the summer. The tongue was denuded of mucous membrane and red. The bowels moved about three times daily. The patient was very thin, small for his age, and exceedingly nervous. The knee-jerks were diminished, the gait sluggish and ataxic, speech hesitating, pupillary reaction lessened, and there was decided hebetude. The urine was negative except for an excess of indican. The writer's conclusions are as follows: Pellagra is rather frequent in childhood. In endemic regions about 10 per cent. of the cases occur in children. It is rare under two years of age. The disease is about equally common in the two sexes in childhood. The negro is far less susceptible than the white, especially in early life. In endemic neighbourhoods in about one half of the cases two or more members of one family are attacked. In a considerable number of cases pellagra follows shortly after one of the exanthemata, especially measles. In the South pellagra frequently develops in children with hookworm. The skin eruption in childhood is quite marked, while in a considerable number the gastro-intestinal and nervous symptoms, particularly the latter, are mild The death-rate in children was formerly rather high, but now the disease occurs in a much milder form and the mortality is low. Heredity plays no part in pellagra except that by lowering the general resistance of the child the disease is more readily contracted. The typical eruption or an accurate history of its former occurrence is essential in making a correct diagnosis.

J. D. Rolleston.

On the significance of herpes in pneumonia and pneumococcal infection (*'Thèses de Lyon,'* 1913–14, *No.* 130).—**J. Perrot** regards the febrile herpes occurring in pneumonia or any other pneumococcal infection as the localisation of the pneumococcus in the skin or mucosæ. Bacteriological examination of the contents of the vesicles clearly shows the presence of the pneumococcus, even when it is not suspected as the causal organism of the infection. Febrile herpes often constitutes the principal manifestation of pneumococcal infection, the signs of pneumonia being ill-marked or almost entirely absent. The same holds good of a certain number of cases of pneumococcal septicæmia, stomatitis, angina, and meningitis. The infection of the skin and mucosæ takes place by the blood-stream. Among the illustrative cases three occurred in children aged from 4 to 10 years, two of whom were suffering from pneumonia with labial or lingual herpes, and one from pneumococcal meningitis with labial herpes. In each case pneumococci were found in the herpetic vesicles.

J. D. Rolleston.

The occurrence of diphtheria bacilli in the vesicles of herpes in diphtheria (*'Münch. med. Woch.,'* 1915, LXII, *p.* 396).—**Rall.**—Herpes. facialis occurs in diphtheria with a frequency varying from 4·2 per cent. (Rolleston) to 6·96 per cent. (Reiche). Rall examined ninety-four cases of diphtheria with herpes facialis and found diphtheria bacilli in twenty-six patients or 27·65 per cent. The bacilli were more frequently found in the severe cases than in the moderate, and in the moderate than in the mild. The infection of the vesicles probably does not take place through the blood or lymph, for in spite of frequent examinations Rall rarely found the bacilli in the blood, but from contamination of the skin by the discharges from the mouth and nose. J. D. ROLLESTON.

Favus in two families (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 1362). —**J. E. Lane** reports the occurrence of favus in two Italian families owing to neglect and failure to apply for treatment. In one instance five out of nine children were affected, and in the other all five. Both families had been resident in the States about twenty years, so the disease was not a recent importation. T. R. WHIPHAM.

Vaccine treatment of ringworm of the scalp (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 224).—**A. Strickler** advocates the use of a vaccine prepared from infected hairs in cases of tinea tonsurans. Five injections of vaccine at intervals of five days are given, beginning with 0·5 c.c. and rising to 2 c.c. This is followed by local treatment with oil of cade and olive oil, equal parts, twice a day for two weeks, together with 1·5 c.c. of the vaccine every six days, and subsequently by an ointment of 20 gr. of precipitated sulphur to 1 oz. of petrolatum once a day for two weeks. Three to four months' vaccine treatment usually suffice for a cure. T. R. WHIPHAM.

Acute encephalitis with presence of the treponema in the lesions in heredo-syphilis (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 330).—**Péhu** and **Gardère.**—A male infant, aged 2 years, whose mother had contracted syphilis four years previously, suddenly developed right hemiplegia. No improvement followed mercurial treatment, and death took place within three weeks. The autopsy showed arteritis of the arteries at the base and of the left sylvian artery and atrophy of the left lobe of the cerebellum. On serial section, numerous foci of cortical encephalitis were seen which, on microscopical examination showed a large quantity of treponemata. Most of the vessel walls showed no lesions, but round the vessels there was a sheath of leucocytes which definitely proved that the condition was due to inflammatory lesions and not to ischæmic softening. J. D. ROLLESTON.

Gumma of the tongue with a space between the upper central incisors in heredo-syphilis (*'Ann. des Mal. Vénér.,'* 1915, X, *p.* 257).—**Gaucher, Bizard** and **Bralez.**—A girl, aged 9 years, presented a typical ulcerated gumma in the middle of the dorsum of the tongue. The sides of the organ were fissured and the upper central incisors were widely separated from each other. Eighteen months previously she had had double interstitial keratitis which had been successively treated by hypodermic injections, consisting probably of the soluble salts of mercury. Her mother had not been ill, but prior to the birth of her two children, of whom the patient was the younger, she had had a miscarriage at two months. The eldest girl showed dystrophic stigmata, precocious obesity, low forehead, high palate, and a fissured tongue. She had also had interstitial keratitis when she was 3 years old. Wassermann's reaction was positive in the two children, but negative in the mother. The father probably transmitted the infection, but he could not be examined. The gumma of the tongue rapidly cicatrised after treatment with subcutaneous injections of benzoate of mercury and potassium iodide internally. J. D. Rolleston.

Cholesterin in the blood serum in congenital syphilis (*'La Pediatria,'* 1915, xxiii, *p.* 161).—**S. Cannata** by using Grigant's colorimetric test, which, although slightly inexact, has the advantage of necessitating the use of a small quantity of serum, 2 c.c., estimated the amount of cholesterin in the blood serum of thirteen healthy children and found that it increased according to age, and after the sixteenth month equalled that of the adult. In twenty-six children, the subjects of congenital syphilis, between the ages of forty days and ten years he found that the cholesterin content was extremely variable, in some cases being equal to that of healthy subjects, but more frequently being less. In a few cases there was a true hypo-cholesterinæmia, but hyper-cholesterinæmia never occurred. There was no relation between the amount of cholesterin and the syphilitic manifestations, nor between it and the presence or absence of the Wassermann reaction. Vincent Dickinson.

The diagnostic importance of Sisto's sign (*'Tesis de Buenos Aires,'* 1914).—**R. Repetto** records 6 cases in children, aged from 7 months to $2\frac{1}{2}$ years, to illustrate the importance of Sisto's sign, *i. e*, persistent crying, in the diagnosis of congenital syphilis (*v.* British Journal of Children's Diseases, 1908, v, *p.* 266, and 1911, viii, *p.* 284). In some of his cases it was the only symptom, while in others it was accompanied by other evidence of congenital syphilis. The characteristic features of the syphilitic cry are as follows: (1) Absence of ordinary causes, such as hunger, colic, or acute painful affections. (2) Time of its occurrence—usually the first 4 months of life; exceptionally it develops later. (3) Persistence. (4) Aggravation on movement or on pressure on the epiphyses of the long bones. (5) Disappearance under specific treatment only. J. D. Rolleston.

Epitrochlear adenitis in the diagnosis of heredo-syphilis in the infant and child (*'Le Nourrisson,'* 1915, iii, *p.* 193).—**Mlle. M. Reichenecker** examined 390 children, aged from a few weeks to fourteen years, in Marfan's service for the presence of epitrochlear adenitis. Her conclusions are as follows: I. Epitrochlear adenitis forms part of the general polyadenitis of children. It is the rarest form of peripheral adenitis. It indicates general infection of the organism much more than a reaction to a local process. Syphilis is much the most frequent cause; tuberculosis comes next. II. (1) Epitrochlear adenitis is not pathognomonic of heredo-syphilis. (2) It is not constant in heredo-syphilis (in Reichenecker's cases it was present in only 60 per cent.). Its absence, therefore, does not exclude heredo-syphilis. (3) Epitrochlear adenitis is sufficiently frequent in heredo-syphilis to make its examination always advisable. Its diagnostic value is greatest in young children. Tuberculosis is very rare before six months of age, and up to one year can easily be excluded by the cuti-reaction. (4) In syphilis which is latent or without specific manifestations, epitrochlear adenitis may be regarded as a sign of real value. It is sometimes the only evidence of the infection. J. D. Rolleston.

So-called "syphilitic rickets" (*'La Pediatria,'* 1915, XXIII, *p.* 689).—**S. Mura** gives tables of eighteen cases which fall into three groups: (1) Those in which rickets must be considered to be the only or most evident manifestation of syphilis. This group shows early development, prevalence of cranial lesions, marked splenic enlargement, and anæmia. (2) Those in which there are other specific manifestations—cutaneous, osteochondral, or visceral. (3) Those in which syphilis is probably a dystrophic cause and prepares the way for ordinary rickets. The author's cases show that the majority of them—fifteen out of eighteen—had been entirely breast-fed, that the chief seat of the rachitic lesions was the skull, particularly the occipital region, and that the rickets always appeared early, and was invariably accompanied by splenic enlargement and more or less intense anæmia.

VINCENT DICKINSON.

The ætiological relationship between chronic hydrocephalus and hereditary syphilis (*'La Pediatria,'* 1915, XXIII, *p.* 568).—**S. de Stefano** gives a table of thirty-five cases showing the frequency with which this relationship occurs. Noguchi's luetin reaction was practised in eight cases only, being positive in four and negative in four. Concomitant syphilitic lesions were present in twenty cases, mainly rhinitis and splenomegaly. The effect of antisyphilitic treatment was much less than might have been expected even in cases treated early and energetically, but this is not surprising considering the large number of negative results in tabes and progressive paralysis, the syphilitic nature of which is often proved by discovery of the spirochætæ. VINCENT DICKINSON.

The Wassermann reaction in congenital syphilis (*'Arch. of Ped.,'* 1915, XXXII, *p.* 522).—**J. A. Roddy,** during the last 5 years, has found Wassermann's reaction positive in 8 out of 100 private cases and in 12 out of 215 hospital patients who had diseases of obscure origin in which neither the history nor signs indicated syphilis, and in which the subsequent course proved the correctness of the reaction. Roddy maintains that here is a professional obligation to make serological and luetin examinations of all hospital patients. J. D. ROLLESTON.

Congenital syphilis in the light of the Wassermann reaction (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 682).—**D. J. Glomset** reports two instances in which syphilis was apparently transmitted into the third generation. T. R. WHIPHAM.

Noguchi's luetin reaction in hereditary syphilis (*'La Pediatria,'* 1915, XXIII, *p.* 573),—**G. Gatti** practised this test in 188 children aged from 0 to 10 years. In 134 who were under strict observation there were 10 in the first few days of life, 22 free from syphilis, 2 doubtful, and 100 certainly infected from 1 month to 10 years of age. Except in the newborn Wassermann's reaction was also performed both on the children and parents, most often on the mothers. In the newborn the luetin reaction was negative in 3 legitimate infants, negative in 2, and positive in 5 out of 7 illegitimate. In 24 free from clinical manifestations of syphilis the luetin reaction was negative in all; the Wassermann reaction was also negative in them and in both parents. Out of 100 cases certainly syphilitic Wassermann was positive in 40 only, whereas Noguchi was positive in 62.

VINCENT DICKINSON.

Noguchi's reaction in hereditary syphilis (*'La Pediatria,'* 1915, xxiii, *p.* 589).—**E. Bellomonte** made extensive observations to elucidate (1) the relation between Noguchi's reaction and syphilitic processes in infants, (2) the relation between the reactions of Noguchi and Wassermann, (3) the relation between the behaviour of these reactions in the children and their parents, and (4) the value of Noguchi's reaction as a test of hereditary syphilis. From the tables given it appears that the luetin reaction in affected children with or without clinical manifestations is positive in a large number of cases—slightly lower results were obtained by Wassermann's. In the parents decidedly affected the mothers gave positive results with luetin in the greater number of instances, while Wassermann's reaction was positive in only half the cases. Noguchi's reaction showed a percentage of cases of hereditary syphilis greater than Wassermann's, but even with the former there were a great number of children definitely affected who did not react, but did so with Wassermann. There were cases in which Noguchi was positive and Wassermann negative, and *vice versâ*. This fact, noticed by Noguchi himself, may have various explanations. In some cases Wassermann was positive in the parents and negative in the children, while luetin gave positive results also in the latter. The luetin reaction, therefore, must not be considered a substitute for Wassermann's reaction since there are cases which give one reaction but not the other.

VINCENT DICKINSON.

The prognosis and treatment of congenital syphilis, with a plea for notification (*'Glasgow Med. Journ.,'* 1915, i, *p.* 330).—**L. Findlay** and **M. E. Robertson** point to the prime importance of the efficient treatment of congenital syphilis and present a synopsis of the results obtained by them with different methods during the past two years at the Glasgow Sick Children's Dispensary. The cases are classified into four groups as follows: (1) Cases treated with mercurial inunction and, in breast-fed children, by the administration of pot. iod. and hyd. perchlor. to the mother. (2) Cases treated with joha and neo-salvarsan by intra-muscular injection and mercurial inunction. (3) Cases treated with neo-salvarsan by intravenous injection and mercurial inunction. (4) Antenatal treatment; treatment of pregnant women by the intravenous injection of neo-salvarsan and by mercurial inunction. In the last group the clinical histories of seven cases so treated are given briefly. The authors, while admitting the value of educative measures, make a strong plea for notification. They assert that "we must have notification—confidential if you like—but notification of some sort if we are going to tackle this disease seriously. After all, is there any radical difference between the compulsory and confidential forms? The knowledge that a certain individual is infected will only be shared by him with his medical advisers, as at present, and a third impartial official, the medical officer of health. If the patient will consent to treatment there is an end to the matter; but if not, the health authorities must be in the position to enforce it, and where the patients cannot afford the necessary treatment, they must be supplied with it. This would entail the setting up of dispensaries and night cliniques, and also the institution of medical visitors, who would carry out the treatment at home when this was thought desirable. No doubt such a scheme would cost the community a considerable amount, but the expenditure would be well worth while if it resulted, as it most certainly would, in a healthier race, and in the removal from the rates of a large number of physical and mental wrecks." J. ALLAN.

Reviews.

TUBERCULOSIS DEL CORAZÓN, DE LA SANGRE, Y DE LOS VASOS LINFÁTICOS. By Dr. A. MARTINEZ VARGAS. Barcelona: J. Vives. 8vo, pp. 40, with four illustrations in colour.

THIS pamphlet consists of a paper that should have been read at the New York Meeting of the American National Association for the Study and Prevention of Tuberculosis in 1908. The author, however, failed to obtain leave of absence from the Spanish Minister of Public Instruction; and so the paper was never delivered in America. The most valuable part of its contents gives a full account of tuberculosis of the heart-muscle, a rare pathological phenomenon, of which the literature contains but sixty instances. Dr. Vargas gives full details and four coloured reproductions of a sixty-first case, observed by himself in 1907. The patient, an ill-nourished girl, aged 5 years, presented signs of the micropolyadenopathy, described as tuberculous by Legroux in 1888, tuberculosis of the lungs, and tuberculous meningitis; the heart appeared normal from the clinical point of view, excepting an arrhythmia that was put down to the respiratory irregularity and the meningitis. The child died in a week. At the autopsy the meninges, lungs, bronchial glands, and mesenteric glands were found to be stuffed with tubercles. The pericardial sac was normal, and contained a small amount of serum. The auricles and ventricles all showed numerous superficial tubercles, yellow in colour, hard, free from inflammatory infiltration around them, for the most part grouped three or four together. Their size is not stated; in the coloured pictures they appear to have varied up to 3 mm. in diameter. On opening the heart the right ventricle was seen to contain a regular and confluent eruption of small tubercles; there were seven nodules on the central flap of the tricuspid valve, and others on the chordæ tendineæ. The left auricle and ventricle resembled a seed-bed of tubercles, with an important group of them on the columnæ carneæ. The mitral valve was free. The myocardium contained numerous hard or crude tubercles throughout. None of the tubercles had softened; the microscopical picture was typical. Dr. Vargas describes the case as one of tuberculous myocarditis, a condition first described by Townsend, of Dublin, in 1832; he believes infection of the heart-muscle to have taken place by the blood-stream, and is unable to accept the view that it is ever primary. He notes that myocardial tubercles usually occur in the ventricles, less often in the auricles, and divides the cases into five classes: (1) Incipient miliary tuberculosis; (2) tuberculoma, up to the size of a hen's egg; (3) diffuse tuberculosis, with nodules of various sizes, as in his own case, and either with or without tuberculous pericarditis; (4) diffuse sclerotic tuberculous myocarditis, with or without the characteristic microscopical appearances of tuberculosis; and (5) tuberculosis with softening and the formation of cavities or ulceration, a case of which was published in 1889 by Mariani, of Madrid. Dr. Vargas remarks that the symptoms and signs of tuberculous myocarditis, occurring as it does in patients with tuberculosis of other parts of the body, are naturally indefinite, consisting in rapidity, irregularity, and feebleness of the heart's action, with dyspnœa and heart-failure. He adds that tuberculous endocarditis, a rare phenomenon, occurs occasionally in the course of miliary tuberculosis, and may be either acute or chronic in its course; in his own patient it produced no valvular murmurs.

The second half of the pamphlet is devoted to tuberculosis of the blood and lymphatic vessels. It is based on a study of the literature, and adds ittle to our knowledge of these subjects. A. J. J.-B.

THE ROCKEFELLER SANITARY COMMISSION FOR THE ERADICATION OF HOOKWORM DISEASE. Fifth Annual Report for the year 1914. Offices of the Commission, Washington, 1915.

THIS report contains an interesting account of the work done by the Rockefeller Sanitary Commission for the eradication of hookworm disease, the wide distribution and serious effects of which in the southern states of North America were first pointed out by Dr. Charles W. Styles (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, p. 478).

The Commission was first organised in October, 1909, and consisted of twelve members, including Drs. William Welch, Simon Flexner, Charles Styles, and Mr. John D. Rockefeller, jun. A sum of one million dollars was placed at their disposal by Mr. John D. Rockefeller, sen., and co-operative arrangements were at once entered into with the departments of health in eleven southern states (Virginia, North and South Carolina, Georgia, Tennessee, Arkansas, Mississippi, Alabama, Louisiana, Kentucky, and Texas).

The results accomplished were eminently satisfactory and may be summarised as follows:

(1) The reality and seriousness of the disease which had hitherto been ignored or made light of were brought home to the medical profession and the public

(2) An infection survey based on microscopical examination of at least 200 rural children between the ages of 6 and 18 in each county was completed for 596 counties in the 11 states. The total number of children examined was 548,992. Of these 39 per cent. were found to be infected, a reduction of 4 per cent. from the 43 per cent. infection found among the children examined prior to 1914.

(3) The sanitary survey to determine by counties the condition of soil-pollution responsible for the infection was completed in 653 counties. Of the 250,680 farmhouses examined, 125,584 were found to be without privies.

(4) Dispensary work not only for the free examination and treatment of patients, but also for educational purposes was conducted in 578 of the 968 counties included in these States.

(5) The co-operation of the medical profession was secured by sending physicians pamphlets and bulletins, by the publication of articles in the medical journals, and by lectures before medical societies.

(6) The medical schools in each state were induced to provide instruction in the diagnosis and treatment of intestinal parasites.

(7) The assistance of the lay press was enlisted.

(8) Definite instruction in the subject of hookworm disease and the dangers and prevention of soil pollution was made a part of the school course in eight states.

(9) Intensive community work was done in twelve communities distributed over four states. The county dispensary was used as an educational agency for instructing the inhabitants in the dangers of the disease and in the measures to be adopted in combating it.

(10) A remarkable growth in the state and local health service.

The report contains numerous statistical tables showing the incidence of infection in the various states during the quinquennium 1910–14 followed by maps of the infected districts and photographs illustrating the effects of hookworm disease and the results of treatment. J. D. R.

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Original Articles.

SPLENOMEGALY WITH ANÆMIA AND HÆMORRHAGES.*

By James Galloway, M.D., F.R.C.P.,
Senior Physician, Charing Cross Hospital; Major, R.A.M.C. (T.F.).

A boy aged 8½ years was observed by his mother to have a little swelling of the abdomen in July, 1913. This enlargement of the abdomen continued to exist and increased. He was said to have had an attack of jaundice in October, 1913; his complexion was said to have been paler, and in February, 1914, a severe epistaxis occurred. He subsequently developed an eruption of small purpuric spots and an attack of hæmatemesis a few days before he was admitted to Charing Cross Hospital in November, 1914. Since that date he had been under constant observation. At first his condition became worse, and there was another attack of hæmatemesis with copious melæna. The lad was pallid, had a slight degree of protrusion of the abdomen; the spleen was markedly enlarged, reaching the umbilicus; the lower edge of the liver could be felt below the costal margin, and the organ probably extended higher in the abdomen than normal, and was probably enlarged; ascites seemed to be present. The blood had been frequently examined, and the following reports were characteristic:

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* The case was shown at the Clinical Section of the Royal Society of Medicine on February the 12th, 1915.

December the 18th, 1914. Blood count: Rouleaux and fibrin formation fair.

Red blood corpuscles=2,900,000 per c.mm. Hæmoglobin, 30 per cent. Colour index, ·5. White blood-cells, 840 per c.mm. Polymorphonuclear leucocytes, 57·5 per cent. Small lymphocytes, 35·0 per cent. Large lymphocytes, 1·5 per cent. Eosinophils, 1·5 per cent. Basophils, 1·0 per cent. Large hyaline, 3·5 per cent.

January the 12th, 1915. Blood count: Rouleaux formation poor; fibrin formation good.

Red blood corpuscles=2,630,000 per c.mm. Hæmaglobin, 30 per cent. Colour index, ·5. White blood-cells, 860 per c.mm. Polymorphonuclear leucocytes, 55 per cent. Small lymphocytes, 35·5 per cent. Large lymphocytes, 5·0 per cent. Eosinophil, 1·5 per cent. Large hyaline, 3·0 per cent. Slight poikilocytosis.

The fragility of the red blood-cells was estimated on December the 21st, and was normal. There was no history or indication of syphilis, and the Wassermann reaction was negative (December the 20th, 1914).

Family History.—The father and mother appeared to be healthy. There were 3 sisters and 1 brother, who were in good health. An uncle on the father's side had hæmatemesis associated with a swollen abdomen, but had now recovered his health. An uncle on the mother's side had been treated for hæmatemesis and ascites.

The question of removal of the spleen arose, and has been carefully considered in conjunction with my surgical colleague, Mr. Stanley Boyd, who has had experience of the operation of splenectomy, and my friends Dr. Parkes Weber and Dr. G. A. Sutherland. The chief contra-indication to operation was the slight enlargement of the liver, possibly due to cirrhosis, and the slight degree of ascites which seemed to be present.

During the following month the lad's condition remained very much the same as when shown to the Section. There was naturally a gradual failure of strength, perhaps a slight increase in the amount of abdominal fluid effusion, but very little change otherwise; one or two slight attacks of hæmatemesis occurred.

Then on March the 19th there occurred a sharp rise of temperature to 102° F., falling to normal the same day—rising to 101·5° on the 20th, falling to normal on the morning of the 21st; rising to 100·6° on the 22nd. On the 23rd, 24th, and 25th the temperature did not rise above 99·6°. During this pyrexial attack, for which no definite cause could be ascertained, the lad remained remarkably well; except for the rise of temperature there was no evidence of any change occurring.

On February the 26th there was a sudden rise of temperature between 6 and 10 o'clock from 97·8° to about 106·2°, with rigor. The lad complained of a certain amount of pain in the abdomen, and he vomited a little, but relative to the remarkable rise of temperature very little evidence of illness was present. The abdomen remained flaccid though a small quantity of fluid was still present, the spleen did not enlarge, the liver remained palpable below the costal margin. The temperature fell suddenly on the morning of the 27th to 102·4°, rising in the afternoon of that day to 104°. On the 28th it fell to 99°; on the 29th it was subnormal, and remained normal subsequently during his stay in the hospital.

The day after the rigor and sudden rise of temperature the lad seemed to be almost in the same condition as before. Those in attendance were very much struck with the fact that in spite of the very severe febrile reaction the patient showed so little sign of illness. Within a few days the abdominal fluid was observed to increase in amount, and as by this time the diagnosis had become fairly obvious, and at any rate the question of operation could no longer be considered to be advisable, the lad was taken home by his parents.

He was seen on one subsequent occasion at his own home about a fortnight after discharge from the hospital. He had then obviously lost strength very markedly, and the abdomen was much distended with fluid. A few days afterwards he died. Unfortunately a post-mortem examination could not be obtained.

There can be no doubt that in the case of this boy the symptoms —splenomegaly and anæmia—were actually associated with portal thrombosis, and that almost certainly the portal thrombosis was the primary cause of the whole condition. The type of pyrexia, especially from the point of view of diagnosis, deserved attention. The degree of fever would certainly in other cases have given rise to symptoms of severe toxæmia or septicæmia, but in this case the patient's general condition was remarkably little disturbed. I have very little doubt that the febrile attack was associated with the increase and spread of the portal thrombosis—probably widely in parts of the portal circulation hitherto unaffected. In the dissection of a previous case ('Proc. Roy. Soc. Med.,' 1914, vii. (Clin. Sect.), pp. 90–97; 137–139) I found that the stage of thrombosis associated with organisation of the clot and of fibrous occlusion of the veins was most marked about the junction of the portal vein with the splenic, superior and inferior mesenteric veins, and that the more recent clot was in the peripheral portions of these veins, especially of the splenic. It appeared probable, therefore, that the remarkable rise of temperature in the present case was associated with a spread of the thrombosis, possibly of an extensive nature, through portions of the portal circulation at some distance from the portal vein itself. The increase of the abdominal effusion would readily be accounted for by such a lesion. The actual cause of the thrombosis was still a matter for investigation, but it is highly improbable that the thrombosis in such cases is due to a bacterial infection resulting in any of the forms of abdominal or intestinal inflammations with which we are familiar. From the point of view of diagnosis the occurrence of fever of this character in such cases would probably assist in the recognition of portal thrombosis.

THE CURE OF SQUINT.*

By N. Bishop Harman, M.A., M.B.Cantab., F.R.C.S.Eng.,
Ophthalmic Surgeon to the West London Hospital and to the Belgrave Hospital for Children.

(*Continued from* p. 45.)

The Technique of Operation.

The number of operations that have been devised for the correction of squint is very great. But they fall into two classes. Those that aim at altering the state of the contracted muscle, and those that are directed to the elongated muscle. The first attempt at operation appears to have been made by John Taylor,† of Norwich. He was born about 1703, and is reported to have travelled through Europe and "cured" squint in the following fashion: The possessor of a cast in the eye was approached with some cutting instrument, a cut was made in the conjunctiva at the inner canthus, and immediately a pad was put over the fixing eye so as to compel the use of the squinting eye. The operator made much of the mystery of his performance, and herein savoured of the quack. Some have doubted if a tenotomy was really made, but there is good contemporary evidence that he did put eyes straight by his operation.

Tenotomy held the field for many years. It was the one and only mode of treating the deformity. It was practised in every degree of severity; not only was the tendon cut, but the check ligaments, or the extensions of Tenon's capsule, were widely severed in the desire to get a full effect. In some cases the eye was even forcibly diverted to the opposite side by a suture. The results of these sweeping measures were the reverse of happy, often there followed at no distant date a squint in the opposite direction. Tenotomy is an unsatisfactory measure, for two reasons: First, the effect cannot be anticipated; in some subjects a minimum tenotomy will produce little apparent effect, in others a tenotomy of apparently the same delicacy will cause a considerable effect, even more than was intended. The other drawback is the loss of control over the eye that follows a tenotomy of even moderate extent. The eye is held in position by the embrace of the ocular muscles and tendons; if one of these is cut it slips backward to a certain extent and loses just so much of its embrace of the eye, the eye is allowed to come forward, it is proptosed; and if at the same time, as is by no means uncommon, the pull of the altered tendon should come upon the tissue beneath the caruncle, there is produced an unsightly hollow at the inner canthus. Recently I had a patient from the antipodes; by no stretch of imagination could he have been called an attractive-looking man, but his eyes made him positively hideous. Each internal rectus tendon had been cut for squint when he was a boy; the eyes were divergent, with marked proptosis and sunken caruncles. When the regions of the tendons were explored these were found to be completely separate from the globe and attached beneath the caruncle. Even without such gross defects there is in many cases loss of power of adduction and of convergence.

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* A paper read before the West London Medico-Chirurgical Society.

† "An Account of the Mechanism of the Eye," 1727.

But one good came out of these disasters. The bad effects had to be remedied, and the attempt led to the operation of advancement. Instead of letting loose the eye by cutting a tendon, it was now sought to pull the eye into a right position by advancing or shortening the tendon on the other side of the globe. The first attempt at such operation was made by von Graefe. He cut both internal and external tendons, and then rotated the eye in the direction he desired, fixing it there by means of a suture carried over the cornea. Needless to say, the attempt did not succeed, but it led to other attempts and to better success. There are now many methods of exposing an external tendon, cutting it, removing pieces, and resetting the tendon to the globe in advance of its former position. The operation is one of the most difficult and delicate of tendon operations, and the success is not commensurate with the labour. The risks of defective operation, or of failure even after a good operation, are great. The bleeding caused by the severance of the tendon obscures the field, even adrenalin will not check the flow from the artery in the axis of the tendon; there is uncertainty of the exact replacement of the tendon in its original axis; and even when these difficulties are overcome there may be failure owing to the cutting out of stitches, for the silk has to unite a frail tendon by an insecure grip to the short-fibred sclera. When there is taken into account the tug of the antagonist, it is not to be wondered that too often the operation fails, and the last condition is worse than the first. Some surgeons do away with the strain of the internal tendon by cutting that first, but to combine a complete tenotomy with an advancement is only to aggravate the defect of the tenotomy and the risk of a subsequent divergence.

These difficulties, and the scarcity of hospital beds wherein to keep the many squinters who needed operation, led me to experiment with the view of getting some form of operation that might be done on out-patients, with good hope of success, and which, by its very nature, would not leave matters worse should the operation fail for any reason. For the past four years I have practised a method of operation that fulfils these needs. Close on two hundred cases have now been done. All, except a few show cases, done in different cities, have been out-patients, that is, they were done in the out-patient department, they were sent home the day of the operation, and were allowed to be up and about. The results of the method are far superior to the older open methods, as will be seen by the following figures:

The First Hundred Cases and their Results.[*]

Sex.—Males, 43; females, 57.

Ages.—First decade, 48; second, 39; third, 12; later years, 1. In the first decade the distribution was as follows: One year or under, 1; two, 0; three, 3; four, 3; five, 9; six, 6; seven, 7; eight, 9; nine, 8; ten, 3.

Variety of squint operated upon:

Convergent, right eye	20
,, left eye	37
,, alternating	36
Divergent	6
Vertical	1
	100

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[*] A detailed account of these cases will be found in the "XVII International Congress of Medicine (London), Ophthalmology," part ii, p. 313.

Operations performed.—In 81 cases the effect was obtained at one time of operating, in 19 part effect was obtained, to be completed subsequently or on the other eye. Two-time operations were frequent at the outset of my endeavours, now they are rare, and only required in high degrees of squint.

The summary of the results obtained is as follows:

Binocular vision restored (tested by the "diaphragm test")	4
Eyes straight and showing no movement on alternate covering	36
Remaining error less than 3 degrees	22
,, ,, about 5 degrees	23

(The above groups may be counted successes and number 85 per cent.)

Remaining error under 10 degrees	9
,, ,, 10 to 20 ,,	4
Relapse six months after operation during a relapse of severe keratitis	1
Over-correction found six months after operation (also a case of keratitis)	1

The cases were followed up for at least one year after operation, and in many cases photographs of the state before and after operation obtained. The 13 cases in which the effect was partial only have since been corrected.

It may be asked why the number of cases in which there was evidence that binocular vision was restored is only four. The answer to that is to be found in the ages at which the patients were operated upon. No less than seventy-eight had reached an age at which restoration of the fusion faculty in any degree that could be determined by test would be practically impossible, these were all over the age of seven years. But if they did not obtain this perfection they were at least consoled in the removal of a gross deformity, and some have been able to obtain work that was denied to them before.

The Author's Combined Operation.

The shortening is done by a reefing-advancement operation. In this operation the tendon is not cut, neither is it exposed to view. The upper and lower edges of the tendon to be shortened are cleared by two buttonholes cut through the conjunctiva and Tenon's capsule, the tendon surfaces are freshened by a rasp, then special forceps are passed through the buttonholes to secure the tendon, movement of the forceps folds or reefs the tendon very much in the fashion that the laundry-maid treats linen-frills in goffering. The reef is then sewn up, or sewn up and advanced, as the case indicates; and the antagonist is lengthened by a graded partial tenotomy—the "jigsaw" operation.

The operation is variable with the degrees of the squint: (*a*) For squint up to 15° reefing only may be done, the reef is graded by the set of the reefing forceps, in adults each millimetre of shortening will secure about 2·5° rectification, in children about 2°. (*b*) In high degrees of squint an 8 to 12 mm. reef is made, secured by sutures, and then drawn forwards towards the cornea, and fixed tightly to the globe by inserting the sutures into the limbus before tying them. (*c*) Both procedures are helped by the lengthening of the antagonist by the "jigsaw" operation, this in itself secures some 5° of effect, but more certainly it allows the full effect of the shortening to be secured. When the "jigsaw" operation is done the great drag of the internal tendon against the external tendon is for the time in abeyance, and the two sides are balanced during the healing process.

REEFING ADVANCEMENT.

Instruments required: Reefing forceps, tendon rasp, scissors, fine-toothed forceps, a good needle holder, three No. 4 curved needles threaded with double No. 1 silk 6 in. long (one black silk, two white), a speculum that will keep the lashes out of the way. (Since doubled silk is used calyx-eyed needles are preferable, for a bad needle can be removed during the course of the operation by breaking the eye of the needle and slipping on another without disturbing the suture.)

The steps of the operation are as follows: (1) Securing the eye—the anchor stitch; (2) locating the tendon to be reefed; (3) the incisions to clear the upper and lower edges of the tendon; (4) rasping the tendon; (5) inserting the reefing forceps and reefing the tendon; (6) securing the base of the reef with sutures; (7) advancing the reef.

STEP 1: *Securing the eye* (Fig. 2).—An anchor stitch is passed through the conjunctiva and sclera close to the limbus. Upon the correct placing of this stitch depends the whole accuracy of the operation. The suture serves to fix the eye during the operation, and it forms the fixed point to which reference is made in cutting the buttonholes and placing the advancement sutures, and in centring the "jigsaw" operation. The black silk is used to give distinction.

The eye is then adducted by means of the anchor stitch and held by an assistant.

STEP 2: *Locating the tendon* (Fig. 2).—In many eyes the fibres of the tendon can be seen shining through the conjunctiva. When the actual fibres cannot be seen the position of the tendon is obvious owing to differences in the colour of the tissues. Beyond the cornea is a circular faintly bluish band of sclera, behind this there are three distinct patches, a median band running backwards of faintly bluish tint, and above and below this band two areas of creamy tint. The blue band is the site of the tendon, and the creamy areas are caused by the opaque Tenon's capsule, where it is not pressed down by the tendon. These features are best seen in the young and in daylight.

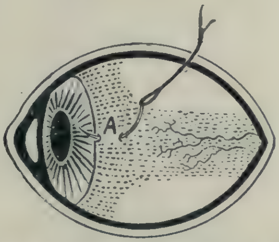

FIG. 2.—Step 1: Inserting the anchor stitch in the axis of the tendon. Step 2: Locating the tendon. The shading indicates the differences in colour (see text).

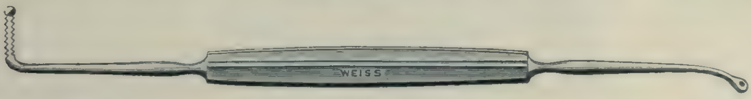

FIG. 3.—Tendon rasp.* A squint hook, the inner and outer edges of which are cut in fine teeth; used to freshen the surfaces of the tendon to be reefed. The other end bears a prong pierced with a conical eye; this is the needle-lifter; with it counter pressure is made during the passage of the needle, and by giving it a half-turn the needle is gripped and drawn out of the tissues.

STEP 3: *The incisions to clear the upper and lower edges of the tendon* (Fig. 5).—Two buttonholes, about 5 mm. long, are cut through the conjunctiva right down to the sclera. They should be close to the canthus, and one above and the other below the tendon, and separated about 7 mm. They are parallel to each and to other the tendon edges. If a *fat* fold of conjunctiva be lifted with the toothed forceps one cut should go through the conjunctiva and capsule and expose the pearly sclera at the bottom.

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* The instruments figured are made by Messrs. John Weiss and Son, Oxford Street, W.

Step 4: *Rasping the tendon surfaces.*—This is done to induce adhesions between the folded surfaces. The rasp is a squint hook with sharp teeth on its edges (Fig. 3). The rasp is inserted under the tendon, and rubbed to and from the insertion against the pressure of the finger-tip pressed on the conjunctiva; then the rasp is inserted above the tendon and under the conjunctiva, and the upper surface is rasped against the pressure of the globe. When this is done the tendon shows red under the conjunctiva even when the adrenalin is acting well. Finally, the rasp is pushed under the conjunctiva from one buttonhole to the other to bring out the capsule, a piece of which is excised to make a free passage between conjunctiva and tendon for the reefing forceps.

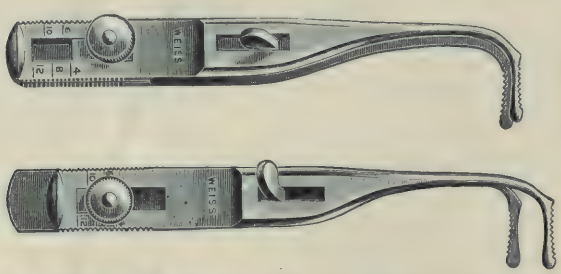


Fig. 4.—Reefing forceps. In the upper figure the blades are coincident. The scale behind the screw-clamp shows that a reef made by the forceps set thus will shorten the tendon 4 mm. In the lower figure the blades are separated to the maximum, the scale shows that the forceps set thus will shorten the tendon 12 mm.

Step 5: *Reefing the tendon* (Figs. 4, 5, and 6).—The reefing forceps is like a pair of squint hooks with short flat handles. The handles fit into each other and are secured by a milled nut, but they can be slid along each other so that the hooks may coincide or be separated The handle is graduated and marked 4, 6, 8, 10, 12. If the blades are set to any one of these figures, and a piece of tape is placed between the hooks, rotating the forceps will fold up the tape by just so many millimetres as the figure on the blades indicate. This is exactly what is done to the tendon.

The forceps blades are set to coincide, and lightly locked with the milled nut. Then they are held over the external canthus with the hooks towards the eye and the blade with the scale uppermost. The hook of the lower blade is passed into one buttonhole and beneath the tendon, just as if it were a squint hook, then it is slightly withdrawn to allow the conjunctiva to be *lifted on to* the hook of the upper blade. The tendon is now between the hooks, they are pushed home until the two points emerge from the other buttonhole.

The set of the blades is now adjusted to the amount of reef required. The lower blade is held in the left hand, the milled nut loosened, and the upper blade pushed forwards until the rear of the bed plate of the milled nut points to the number required; the milled nut is then locked, and the turn-pin turned to clamp the blades.

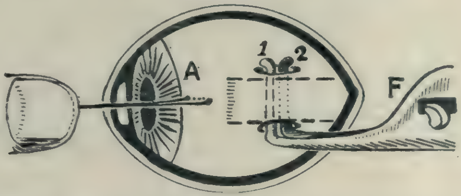


FIG. 5.—Steps 3 and 5. The eye is held by the anchor-stitch A. The buttonholes are cut through the conjunctiva or Tenon's capsule. The reefing forceps (F) has been inserted so that the blades are above and below the tendon and beneath the conjunctiva. (*In this and subsequent figures broken lines indicate subconjunctival parts.*)

Now the handle of the forceps is lifted and gently turned across the face so as to lie on the nose; during this movement the eye will be seen to turn outwards. The tendon is reefed. If the effect is not enough the forceps can be turned back and the blades readjusted as required. Rotation of the forceps causes no discomfort if it be done gently.

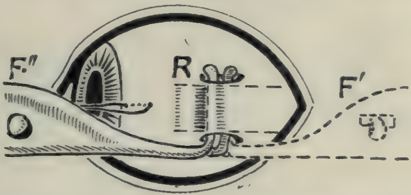


FIG. 6.—Step 5: Rotating the rasping forceps. From the first position, F′, in which the forceps secures the tendon, the handle is turned across the face to lie on the nose at F″. The tendon is reefed. (See effect in Fig. 8.)

STEP 6: *Securing the base of the reef with sutures* (Figs. 7 and 8).—The reef is fixed by sewing up the base on each side. Two sutures are necessary. The needle is gripped in the holder close to the eye to leave as much of the needle projecting as possible. The handle of the reefing forceps is lifted so that the base of the reef is seen on the side towards the cornea. The needle is passed beneath the cut edge of the conjunctiva, dipped beneath the lowest hook of the forceps, and made to pierce the base of the reef; the reefing forceps are replaced on the nose, and the needle point will be seen

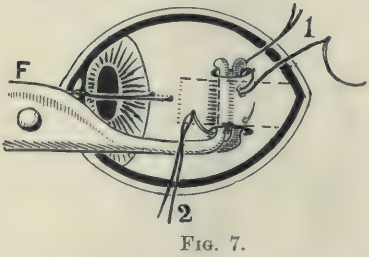


Fig. 7.

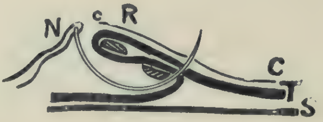


Fig. 8.

Fig. 7.—Step 6: Securing the base of the reef with sutures. (1) The first suture is seen in position; the needle has been passed through the base of the reef twice, so that a loop or bight of the suture secures reef. (2) The needle is shown entering the conjunctival buttonhole, passing below the reefing forceps, and coming out through the reef and conjunctiva.

Fig. 8.—Step 6: Diagram to show path of needle through base of reef. N. Needle. R. Reef. cc. Conjunctiva (small "c" indicates conjunctival buttonhole). T. Tendon. S. Sclera. Forceps blades seen in cross section.

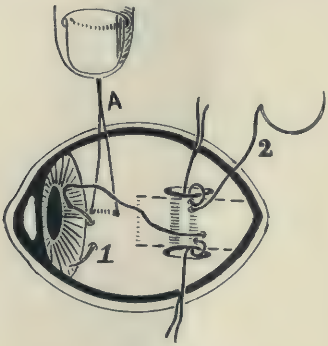


Fig. 9.

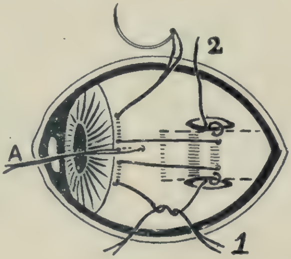


Fig. 10.

Fig. 9.—Step 7: Advancing the reef. The eye is held steady by means of the anchor stitch A, and the needle of the lower suture made to traverse the layers of the sclera close beside the anchor stitch. Next, the upper one is inserted into the sclera in the same way.

Fig. 10.—Step 7: The advancement sutures are all in position ready to be tied and draw forwards the reef.

projecting beneath the conjunctiva toward the outer canthus. The hole at the end of the "needle lifter" (Fig. 3) is pressed on to it, and with a half-turn the needle extracted. Once again the needle is passed through the reef in exactly the same fashion, so the base of the reef is gripped in the bight of the suture. This is done on both sides; then the locks of the forceps are loosened, and the blades drawn out of the reef.

STEP 7: *Advancing the reef* (Figs. 9 and 10).—Each of the sutures that hold the reef is fixed in turn into the sclera, one on each side of the anchor stitch and at right angles to it. The needle is gripped in its middle by the holder, the eye is steadied by the anchor stitch held at right angles to the tendon, then the needle is made to penetrate the conjunctiva and upper layers of the sclera close to the limbus for about 3 mm. The needle is inserted close to the anchor stitch and pushed away from it so that the eye is kept quite steady. The suture is altogether outside the conjunctiva except where it pierces it to grip the sclera at the limbus, and again where it dips down to secure the reef. When the sutures are in position, each is tied in the first stage of a surgical knot and pulled tight; by this means the reef is drawn forwards to the cornea and pressed firmly down to the sclera. Then the knot is completed and the sutures cut short to 5 mm.

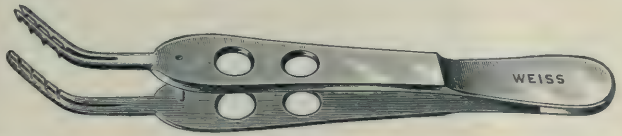


FIG. 11.—Director forceps. For use in tendon lengthening or "jigsaw" operation.

Reefing without Advancement.

The operation is essentially the same as the foregoing, except that the sutures that secure the base of the reef are tied at the end of Step 6 (Fig. 8). So soon as the base is secured on each side, and the reefing forceps withdrawn, a small glass bead is threaded on to each suture and the suture tied over it. The operation is good for small degrees of squint when combined with the "jigsaw" operation. It has the advantage that the scars of the conjunctiva are wholly beneath the canthus and invisible in straight forward vision.

Lengthening the Antagonist—" JIGSAW *" Operation.*

The steps of the operation are as follows:

Step 1.—The tendon is exposed by the open method, lifted on a squint hook, and the point of the hook cleared so that there is a free passage under the tendon. It is quite unnecessary to waste time on cleaning the edges of the tendon.

Step 2.—The director forceps are taken up and the under blade slipped under the tendon on the one side whilst the hook is being withdrawn from the other.

Step 3.—The "director forceps" (Fig. 11) are now accurately centred on the axis of the tendon. This is done by seeing that the notch on the upper blade is exactly in line with the anchor stitch on the other side of the cornea; notch and stitch must be in a line with the exact horizontal meridian of the cornea. This centring is essential, and it enables one to be quite independent of the edges of the tendon which may be masked by capsule. The forceps are closed and the tendon held fast.

Step 4.—A sharp-pointed knife is used to make the middle cut (Fig. 12 (1) *b*), which must extend from the edge of the tendon nearest the shank of the forceps, to just behind the notch on the middle of the blades. The cut will sever two-thirds the breadth of the tendon. It is made by running the knife along the groove in the lower blade of the forceps. The knife is now laid aside.

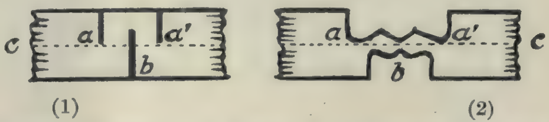


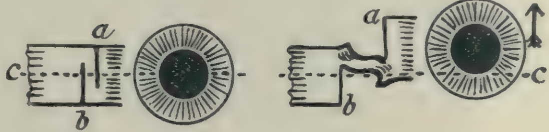
FIG. 12.—"Jigsaw" operation. (1) Shows: *b*. The middle two-thirds cut. *aa'*. The two lateral half-cuts from other edge of tendon to axis *c*. (2) Tissue stretched after cuts are made, showing band uniting axis of tendon.

Step 5.—The scissors are taken up and with them two cuts are made, one on each side of the forceps from the points up to, but not beyond, the notch on the blade (Fig. 12 (1) *a*, *a'*). These two cuts are, therefore, made from the opposite side to the central two-thirds cut, and they sever half the width of the tendon only. The tendon will now extend lengthwise without losing its attachments or alignment (Fig. 12 (2)). The forceps are now withdrawn, and the conjunctiva closed by a single vertical stitch.

The operation needs the utmost delicacy and accuracy for its successful performance. If the middle cut does not cross the axis of the tendon there is no result; if it should be too extensive, there is danger of complete tenotomy. If the two half-cuts are unequal, there will be a vertical deviation. When all the cuts are just right the effect is excellent, and the combination of this "jigsaw" operation with the reefing or reefing-advancement will give the most happy result. Immediately after the operation it can be demonstrated that the eye retains good lateral movement, showing that the new relative positions of the tendons are not obtained by any loss of power.

Varying the Operation to effect Vertical Deviation.

Occasionally a convergent squint is combined with some vertical deviation. This can be corrected by varying the "jigsaw" operation. The tendon is secured in the director forceps as before, but only two cuts are made athwart it, one from each side, and each cuts through two-thirds the breadth of the tendon (Fig. 13). The eye will turn upwards or downwards according as to the position of the cut nearest to the insertion into the globe. If this near cut be made from the upper edge the eye will turn up; if it be from the lower edge the eye will turn down. A very considerable deviation can be obtained by this method to five degrees or more.



(1) (2)

Fig. 13.—"Jigsaw" operation to effect vertical deviation. (1) Two sections made from opposite edges of tendon, each cutting two-thirds. (2) Shows effect of making cut next insertion from *upper* edge of tendon; the eye is turned *upwards.*

General Remarks.

These operations are much quicker to perform than to describe, and the reefing operation gives a sense of security lacking with the ordinary open advancement operation. Since the conjunctiva is cut very little, and then only in buttonholes parallel to the line of the vessels, there is practically no bleeding when adrenalin is used; swabs are scarcely wanted. The puckering of the conjunctiva speedily smooths out, and after a month there is no more than a little thickening and the marks of the sutures. The reef leaves no permanent lump; it soon becomes so flattened to the globe that it is not possible to tell what form of operation has been done.

A local anæsthetic is all that is needed when patients are of an age to lie quietly. Equal parts of 5 per cent. cocaine with 1 : 1000 adrenalin gives excellent results. More time for the installation should be given for those patients who have hot faces than for those with cool skins; the former do not react so well to adrenalin. Pain is only complained of when the needles are being pushed through the base of the reef, and that can be reduced by the careful counter-pressure with the needle-lifter; again, there is momentary pain when the sutures are drawn tight.

Good daylight is essential to successful operation; artificial light is never so good, as it obliterates the distinctive colours of the tissues.

Bandaging after operation: The operated eye only should be covered. The bandage must be so arranged that the glasses can be worn immediately after operation.

The eye operated upon should be irrigated every day whilst the stitches are in place. The stitches are removed on the eighth day. Care must be exercised in their removal, for the bights of the silk hold remarkably well, especially in adult eyes. The knots will be found hidden under the external canthus, if a loose end of one be lifted and pulled on gently the two limbs of the suture will be seen; one limb is cut, and then gentle traction, if necessary, aided by counter-pressure against the eye, will ensure removal of the silk, which comes curling out like a worm.

After the removal of the stitches all bandages should be removed, and nothing further need be done to the eyes. The glasses must be worn, that is a point that must be insisted upon, for many parents hope that after operation glasses may be discarded; if this is done the same conditions of difficulty that originally overturned the brain control of the eyes and caused the squint are re-established, and the good effect of the operation may be neutralised. It is important to discard the bandages as early as possible, to bring the two eyes into early coincident working, so as to secure the continual exercise of any fusion faculty that may be present. For at least one month after operation the child should not read or use picture books, but be free to play outdoors as much as possible.

SINGLE PELVIC KIDNEY.*

By J. D. Rolleston, M.D.

The specimen to be described was taken from a mentally defective boy, aged 14 years, who died of septic scarlet fever on the eleventh day of disease. There was a trace of albumin in the urine during the nine days that he was in hospital, but there were no other renal symptoms.

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* The specimen was shown at the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 26th, 1915, and is now in the Museum of the Royal College of Surgeons.

Post mortem no kidneys were found in the usual situation, but on the right side and within the brim of the pelvis was a single kidney lying in apposition to the posterior wall of the bladder. It was irregular in shape and by no means reniform, but corresponded to the variety described by French and German writers as the cake-shaped kidney (*rein en galette, kuchenniere*). The surface was lobulated. The organ measured $3\frac{1}{4}$ in. long by $1\frac{3}{4}$ in. broad at its upper part, and $2\frac{5}{8}$ in. in its lower part, and 1 in. thick. The weight was 4 oz. On section there was some dilatation of the pelvis and calices, but no marked degree of hydronephrosis. The hilus was situated anteriorly, and from it issued a single ureter, considerably dilated and hypertrophied, which measured $7\frac{1}{2}$ in. long, $\frac{1}{2}$ in. broad close to the kidney, and 1 in. broad at its widest part, $1\frac{1}{4}$ in. above its entrance into the bladder. At its lower extremity it became narrow again, and the lumen of the vesical end barely admitted a pin's head. No trace of a left kidney or ureter could be found. There was no malformation of the genital organs. The blood-supply of the kidney was unfortunately not examined.

The specimen is one of unusual interest, combining as it does the following rare conditions: (1) Unilateral renal defect, (2) congenital renal misplacement or dystopia, (3) dilatation and hypertrophy of the ureter, with congenital stricture at its vesical extremity.

In the first place, single or asymmetrical kidney (renal aplasia or agenesis) as distinct from solitary kidney which represents the fusion of the two organs is extremely uncommon, being found, according to Morris (20), in only 1 out of 2400 autopsies. Although about 300 cases are on record, many of them, especially those recorded by earlier writers, could not withstand criticism, some being examples of solitary rather than of single kidney, while in others there was renal atrophy rather than aplasia. In some cases the kidney and ureter on one side appear at first sight to be completely absent, but on close examination rudiments of these organs are discovered, though it may be only with the aid of a microscope (Sternberg (28)). Secker (27) alone of recent writers considers that renal aplasia is not a rare anomaly. Out of 8150 autopsies performed at the St. Johannes Hospital in Copenhagen, renal aplasia was found in 7, *i. e.* in 1 out of 1164 cases. Dorland (9), to whose valuable paper on renal anomalies I am much indebted, states that the single kidney is almost always normal in shape and position. Such, indeed, was the case in the last specimen of single kidney which I showed before this Section (26), the organ being situated in the usual position in the loin, and though considerably enlarged, retaining its ordinary shape.

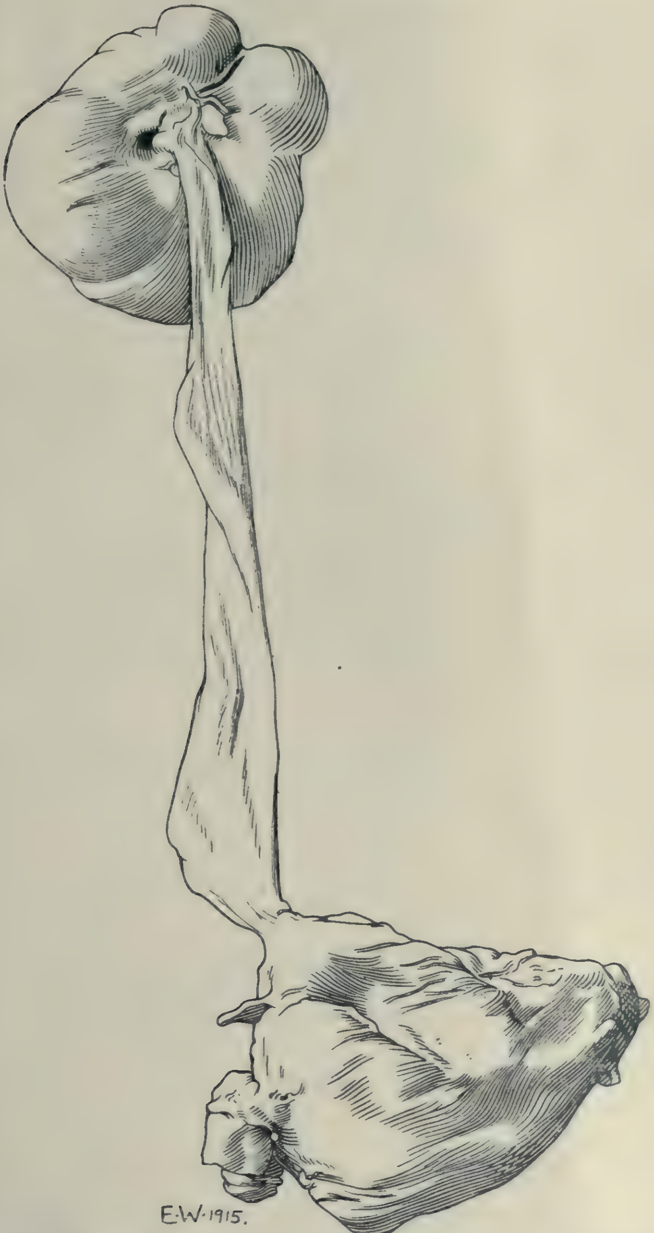
Congenital displacement of the kidney or renal dystopia, though unusual, is less uncommon than single kidney. Giuzzetti and Pariset (12) found it in 18 cases among 24,000 autopsies held at the Parma Pathological Institute from 1854 to 1910, or roughly in 1 in 1000 cases. Girard (10), however, regards dystopia as a more common event, and estimates its frequency at about 1 in 500. He quotes Naumann who, among 10,177 autopsies performed at the Kiel Pathological Institute from 1873 to 1896, found 21 cases, or 1 in 484.

The association of unilateral absence of the kidney with congenital misplacement is exceedingly uncommon. Girard, who has collected 360 cases of congenital renal ectopia, has found only 15 examples of this combination, and in only 6 cases was the single kidney situated in the pelvis—Chrétien (4), Cutore (6), Guelmi and Ciniselli (11), Hebb (13), Hénot (15), Mérier (19). Of the remainder, 2 were examples of low lumbar kidney, 4 of iliac kidney, and 3 of crossed single kidney. Of the 6 cases, 1 was a fœtus, aged 8 months; 4 were children, aged from 3 months to 10 years; and 1 a man, aged 47 years. In 4 the single kidney was on the right, and in 2 on the left side. In all but Hebb's case, in which two-thirds of the kidney was in the pelvis and one-third projected above the promontory, the kidney was situated low down in the pelvis.

The form of the kidney in pelvic dystopia is usually more or less modified, as was exemplified in the present case. In Mérier's case it was rounded, in Guelmi and Ciniselli's case it was elliptical, in Cutore's case it was flattened posteriorly, only in Hebb's case was it described as almost normal. This modification in shape, as Heiner (4) has shown, is at least in part due to the influence of the neighbouring organs, on which the form of the normal kidney is also dependent to some extent.

The remarkable dilatation and hypertrophy of the ureter were probably due to the narrowing of the vesical end of the duct, which is the most frequent site of congenital structure (Bottomley) (2)). Dilatation of the ureter was also a feature of the cases recorded by Cutore, Hebb, Chrétien, and Guelmi and Ciniselli, though in none of these cases is any explanation offered for the dilatation, except in Cutore's case, in which a calculus was found.

As a general rule, to which the present case conforms, dystopic kidney is discovered only by chance, either post mortem or in the course of an operation for some other condition. It is only in com-



Single pelvic kidney and dilated ureter with stricture at vesical end.

paratively exceptional cases, chiefly of a gynæcological or obstetrical nature, that symptoms referable to the kidneys arise. Of the six previously recorded cases of single pelvic kidney the only one with renal symptoms was that of Guelmi and Ciniselli, their patient being a girl, aged 10 years, who died of uræmia due to parenchymatous nephritis.

Dystopic kidney was well known to the earlier writers. In the sixteenth century, cases were frequently related by anatomists. Thus, Caspar Baubin, who first described the ileo-cæcal valve, has figured in his 'Theatrum Anatomicum' a left kidney situated at the bifurcation of the aorta in front of the sacrum and supplied by vessels from the right iliac artery and aorta.

Similar cases were subsequently recorded by Eustachius, Bartholin, Botallo, and Wrisberg, but it is only comparatively recently that dystopic kidney has had anything more than an anatomical interest (Müllerheim (21)).

Thus, of 111 clinical cases of congenital renal ectopia collected by Girard in 1910, no less than 100 had been published since 1890. In about a third of Girard's cases the symptoms were due either to the misplacement alone or to actual disease in the dystopic organ. Apart from obstruction to labour caused by a pelvic kidney, the patient may seek advice for dysmenorrhœa or for digestive troubles. It is important, however, to realise that there is no pathognomonic sign of renal dystopia.

In at least three cases, and it is probable in several others, for such disasters are not readily recorded, a single dystopic kidney has been removed, death occurring six days (Oehler's (23) case), seven days (Buss's (3) case), or eleven days (Polk's (25) case) later.

Plummer (24), in his monograph on dystopic kidney, states that in two cases of excision of part of the kidney the autopsy showed there was no other kidney.

In Cullen's (5) case an exploratory operation was performed on a girl, aged 17 years, who had never menstruated. A large oval mass felt *per rectum* was thought to be retained menses, but was found on laparotomy to be a pelvic kidney, which was therefore left *in situ*. The uterus and vagina were absent.

The association of mental defect with a renal anomaly in my case is of interest. At least, three other examples of the kind have been published. In Albrecht's (1) case of abdomino-pelvic dystopia with pyonephrosis, the patient, a man, aged 30 years, showed considerable hydronephrosis, and was mentally deficient. Hochenegg's (16) patient, a woman, aged 52 years, with a left pelvic kidney, was an hysterical subject. In Israel's (17) case, the patient, a woman, aged 61 years, who was operated on for a right pelvic kidney, had to be sent to an asylum. Israel thinks that the combination of renal dystopia and psychical disturbance is not a mere coincidence; but regards both these developmental errors as stigmata of degeneration.

Dystopic kidney is especially liable to disease, and this liability is remarkably increased if the dystopic organ happens to be a single one. According to Anders, as I pointed out in my last paper, 46·5 per cent. of all cases of single kidney show morbid changes, and 42·3 per cent. some form of chronic nephritis. Dystopic kidney is also liable to different forms of nephritis, as well as to hydronephrosis (Lafoscade (18)), pyonephrosis, calculus, tuberculosis, and sarcoma.

Though the dystopic kidney does not show any characteristic clinical symptoms, the anatomical features are fairly constant. In the first place, it is, as a rule, firmly fixed, in the absence of any inflammation, chiefly owing to the strength of its vascular pedicle by which it is anchored, whereas the kidney whose displacement is acquired is more or less movable, and only becomes fixed as the result of inflammatory adhesions. In some cases, it is true, as Delaforge (7) has shown, the dystopic kidney may become movable as the result of pregnancy or of trauma inflicted by the fœtal head during labour, but such cases are decidedly exceptional. Secondly, the shape of the dystopic kidney is rarely normal, whereas the kidney whose displacement is acquired usually retains its typical uniform appearance.

Thirdly, the blood-supply of the dystopic kidney is multiple: The arteries arise from the bifurcation of the aorta, the common iliac, external or internal iliac, median sacral and other neighbouring vessels, and the veins correspond. The blood-supply of the floating kidney, on the other hand, is the same as in the normal organ, the arteries arising from the aorta and the veins emptying themselves into the inferior vena cava.

Fourthly, the length and direction of the ureters are characteristic. The ureter of the dystopic kidney is always shorter than its normal fellow, and the lower the kidney the shorter the ureter will be. At the same time it affects a rectilinear direction, taking the shortest course to the bladder. In floating kidney, on the other hand, the ureter, though more or less curved, is of normal length. Delore (8) has pointed out that intermediate forms exist in which the ectopia is due both to congenital and to acquired causes. He also quotes a case of bilateral renal displacement in which the ectopia of one kidney was congenital and of the other acquired.

It is noteworthy that my case showed none of the genital defects which have been observed, both in cases of dystopic and of single kidney. Some authors state that single kidney is always accompanied by genital anomalies, and the frequency of these anomalies in renal dystopia is shown by the fact that Heiner (14) has collected 35 such cases.

Of the previously recorded cases of single pelvic kidney 3 showed various genital defects. Thus, in Hénot's case there was no trace of a vulva or urethral opening, but only an imperfect vagina. In Guelmi and Ciniselli's case the uterus, broad ligaments, and vagina were absent, the ovaries were ectopic and lay on either side of the vertebral column at the level of the twelfth dorsal vertebra.

In Cutore's case there was no trace of a uterus or vagina, and the ovaries and Fallopian tubes were rudimentary.

Other anomalies have been associated with dystopic kidney, such as imperforate anus, supplementary spleen, four lobes to the right lung, etc. (Nurdin (22), Sträter (29)).

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Philadelphia Pediatric Society.

Tuesday, June the 10th, 1915.

Hyperplastic Pyloric Stenosis and Patent Foramen Ovale.—Dr. Ginsburg.—The history of this case was as follows: A first child; instrumental delivery. At birth the baby weighed 8 lb. Three weeks before admission to the hospital, after satisfactory nursing at the breast, it began to vomit, the vomitus being projectile in type. In spite of rectal feeding and modification of breast feeding the child continued to vomit, and was admitted to hospital at the age of 5 weeks. The baby weighed 5^{1} lb., and there was a palpable tumour in the region of the pylorus with epigastric peristalsis. Since the baby was steadily growing worse and food retention by the stomach seemed impossible, surgical intervention was determined upon. At operation through a median incision in the epigastrium, it was impossible to deliver the stomach owing to the firm immobilised pyloric end of the stomach which was greatly thickened. The pylorus was spindle-shaped and very thick, indicating enormous hypertrophy of its musculature. A posterior no-loop gastrojejunostomy was performed. Five days later, owing to the unsatisfactory state of the patient, the abdomen was re-opened, the posterior anastomosis closed, and an anterior gastro-enterostomy performed, making a big orifice. The baby ceased vomiting, except for an occasional eructation, and gained 15 ounces in the succeeding nine days. Food digestion took place, as evidenced by normal, yellow, bowel movements, and absence of vomiting. On the ninth day, when the baby apparently was doing well and recovery seemed certain, it developed a temperature and died. At autopsy a condition of the stomach showed an enormously thickened pylorus and a functionating gastrojejunal orifice. The surgery of pyloric stenosis includes a review of the surgery of pyloric obstruction from various causes in the adult. It would seem, from a hasty review of this subject, that pyloric resection with closure of the stomach and duodenum and gastrojejunostomy, pyloroplasty of the Finney type, and pyloroplasty of the Mikulicz-Heineke type, as well as incision down to the mucosa without suture, are all difficult, and at times, impossible procedures upon the infant. Dr. Ginsburg believes, from the work of Scudder in Boston and others, as well as from his own limited experience, that in hypertrophic pyloric stenosis with almost complete occlusion of the pyloric passage, that the operation of choice is posterior gastrojejunostomy.

Roentgenographic Studies in Children.—Dr. Pfahler demonstrated about thirty-five lantern slides of interesting cases occurring in children varying in age from fœtal life to the beginning of adolescence.

The first was a series of fractures and injuries to the bones, giving rise to obscure symptoms, which could only be clearly diagnosed by means of the Roentgen rays. In one case an oblique fracture of the femur was found in a child of 6 weeks in whom there had been no history of an injury, and because of the extreme tenderness, swelling, and accompanying fever, the thigh was incised for an abscess, and when no abscess was found it was thought to be sarcoma. The roentgenogram showed clearly an oblique fracture, causing the symptoms.

There were then a series of diseases of bones and joints, which, because of the youth of the patients, could not be clearly diagnosed except by means of roentgenographic studies.

Several cases of enlarged thymus were demonstrated, which had produced asthmatic breathing with paroxysms of supposed croup, which symptoms were completely relieved by Roentgen treatment.

Several cases of sarcoma of the jaw were shown, demonstrating the disease and the healing influence of the rays, the patients being entirely well from two to six years.

Cases of dilated hearts and obstruction of the bowels were also demonstrated.

As a whole, the object of the demonstration was to show the importance of making use of the Roentgen rays in the study of obscure cases in children.

Common Eruptive Conditions in Children.—Dr. Jay F. Schamberg exhibited a series of slides illustrating the common eruptive conditions observed in children. First there was a series of illustrations of vaccinia in children born of mothers suffering from smallpox. The experience of Dr. Welch and Dr. Schamberg was not in consonance with that of Prof. Roger, of Paris, who claimed that the vast majority of children born during or immediately after a maternal attack of smallpox were insusceptible to vaccination. While it was true in some cases, it constituted a very small percentage of the infants thus born. Children vaccinated during the first weeks of life appeared to develop less constitutional reaction than older children.

Several slides were shown to contrast the eruption between chickenpox and smallpox. The fact was emphasised that the number of lesions and the amount of fever present were no safe guides as to the diagnosis. The diagnosis was based on the distribution of the eruption, the presence or absence of the prodromal illness, the depth of the lesions in the skin, their uniform character in smallpox, and their multiform character in chickenpox.

There was next exhibited a photograph of a child with measles with a closely aggregated papular eruption simulating the exanthem of scarlet fever. Dr. Schamberg said that he had but recently made an error of diagnosis in such a case in which an accidental coryza swayed the diagnosis in favour of measles, whereas a subsequent typical desquamation of the fingers demonstrated that the case was in reality scarlet fever.

Slides were shown of infantile eczema and also of certain infantile eczematoid eruptions due to pyogenic micro-organisms, and resulting from the contact of the discharges from the eyes, nose, and ears. The causes of infantile eczema were still obscure, but recent investigation would indicate that certain foodstuffs for which patients had special idiosyncrasies might be responsible in many cases. Where a child was fed on maternal milk an excess of fats might be a factor.

Another series of slides showing the various forms of tuberculosis of the skin in children was shown. A case of considerable interest was that of a child who developed an attack of warty tuberculosis on the sole of the foot, presumably following some local infection through a wound. It developed a femoral adenitis which suppurated, and in the discharge were found tubercle bacilli.

A number of varieties of ringworm of the scalp and smooth skin were demonstrated. Dr. Schamberg referred to the fact that ringworm of the skin was commonly contracted from cats, dogs, and other domestic animals, and that under such circumstances the number of lesions was usually much greater than when contracted from the human subject.

Several varieties of bromide eruption in children were exhibited, and emphasis was placed upon the fact that nursing infants may develop characteristic fungating bromide lesions through the drug imbibed in maternal milk. Another point of interest was that lesions of bromide eruptions may continue to appear several weeks after the last dose has been taken, in view of the very slow elimination of the drug. Dr. Schamberg had seen a number of bromide eruptions in children in which there had been a suspicion of smallpox on the part of the practitioner in charge. Relatively few infants were susceptible to the bromides, but the characteristic bromide eruption is most disfiguring in appearance and alarming to the parents.

Demonstration of Skiagrams.—Dr. W. F. Manges first showed a very interesting series of skiagrams of the skull illustrating cases of internal and external hydrocephalus, and cases of injury to the skull. He emphasised the point that no matter how soft the tissue pressing on the cranium, it would eventually leave its mark on the bone. This was brought out very well by some pictures of a case which he diagnosed as glioma, and which was proved by operation.

Some cases of mastoid involvement were shown, and the contrast between the normal mastoid cells and those filled with exudate was clearly depicted on the screen. Dr. Manges here spoke of the importance of the X ray as showing the line of the lateral sinus.

Some thymus cases were shown. Often the single treatment by X ray would cause a disappearance or a marked lessening in the size of the thymus shadow. This was probably due in many cases to the fact that at the time the first picture was taken the thymus was temporarily congested.

The contrast between early and late tuberculosis in the hip was the next series.

When showing some pictures of a congenital dislocation of the hip, Dr. Manges spoke of the fact that the X rays were not so necessary for the diagnosis, as that was usually easily made, but X rays showed the very important point as to whether the acetabulum was sufficient to receive and retain the head of the bone.

Other plates shown were a tubercular ankle, congenital dilatation of the colon, and a series of fractures. One of these latter was very interesting in that it showed an injury to the elbow, with the head of the radius broken off and in very poor position, and in spite of this the child was very comfortable in Jones' position. Without the use of the X rays in this case a very bad deformity would have resulted.

Abstracts from Current Literature.

Diseases of the Circulatory System.

A case of congenital heart disease ('*Am. Journ. Dis. Child.*,' 1915, x, *p.* 27).—**J. L. Morse** records a case in a boy, aged 8½ years, who had been blue since he was 4 months old, and had always been feeble and dyspnœic.

The fingers and toes were clubbed. The red cells varied between 7,800,000 and 13,675,000. The right border of the heart was 4·5 cm. to the right of the median line and the left border 11 cm. to the left of the median line. The upper border was at the lower border of the second rib. There was a high-pitched murmur beginning just before the first sound, accompanying and continuing a little after it. The second sound was accompanied by a long rough murmur, loudest in the third left space. The liver was enlarged. The spleen was not palpable. Death took place suddenly. The necropsy showed complete congenital atresia of the pulmonary artery, congenital defect of interventricular septum, persistent ductus arteriosus, acute vegetative endocarditis of the aortic valve, and on the inferior border of the interventricular opening, thrombosis of the ductus arteriosus, patent foramen ovale, and dilatation and hypertrophy of the right ventricle.

J. D. Rolleston.

Congenital pulmonary stenosis ('*Lancet*,' 1915, ii, *p*. 976).—**D. Martin** briefly describes four cases of congenital pulmonary stenosis in children without the usual obvious signs, the condition being discovered during the routine examination of school medical inspection. In the author's opinion the cases serve as an illustration of the utility of the medical inspection of school children for the detection of unrecognised conditions requiring treatment and care. Such precautions will undoubtedly maintain, and ultimately increase, the virility of the future generations.

J. Allan.

Congenital dextrocardia, with patent interventricular septum ('*Am. Journ. Dis. Child.*,' 1915, x, *p*. 1).—**R. D. Moffett** and **S. Neuhof** record a case in a boy aged 3½ years. The family history was negative as regards rheumatism, syphilis and tubercle. The patient was a full-term child who had always been blue and short of breath. The fingers and toes were clubbed. The heart showed a strong heaving impulse in the right axillary line and in the epigastrium. There was a marked systolic thrill over the entire præcordium, most marked at the lower end of the sternum and in the epigastrium. The apex-beat was felt most prominently 6·5 cm. to the right of the mid-sternal line. On percussion the left border was at the left sternal margin. The right border in the 6th space was 9 cm , in the 5th space 8 cm., in the 4th space 7 cm., in the 3rd space 5 cm., and in the 2nd space 3 cm. to the right of the mid sternal line. There was a loud systolic murmur corresponding to the area of palpable thrill. X rays and an electro-cardiogram confirmed the diagnosis of dextrocardia, a correlation of the physical and fluoroscopic signs—thrill and murmur over the entire præcordium, but most prominent at the xiphoid; apparent absence of the radiographic shadow of the pulmonary artery; an enlarged "left" auricle; an enlarged "right" auricle, "left" and probably also "right" ventricle, pointed towards patent foramen ovale and interventricular septum as the probable congenital lesions. Death took place, but no necropsy was obtainable. The writers have collected 126 cases of dextrocardia from the literature since 1649, including those of Carpenter (British Journal of Children's Diseases, 1904, i, *p*. 160, and 1909, vi, *p*. 144), Beronguer (*ibid.*, 1913, x, *p*. 282), Culcer-Petresco (*ibid.*, 1913, x, *p*. 282), and Neuhof (*ibid.*, 1914, xi, *p*. 84).

J. D. Rolleston.

Differentiation between functional and organic cardiac disease in children ('*New York Med. Journ.*,' 1915, cii, *p*. 191).—**M. H. Bass**

first emphasises the importance of the diagnosis with regard to the life of the child, whether it should be allowed to romp with its companions or to lead the life of an invalid. He quotes cases of children suffering from "heart weakness" without organic disease occurring in those suffering from orthostatic albuminuria showing symptoms of dyspnœa, palpitation, præcordial distress and pain, and so simulating organic disease. There were no murmurs, and the heart was normal in size, shape, and position. The type of child is often suggestive. The patients are often about the age of puberty, have grown rapidly, and are thin and narrow-chested. The scapulæ project, the abdomen protrudes, and there is lumbar lordosis. The epigastric angle is narrow and the tenth rib is free. They flush easily and the vasomotor system is unstable, as shown by very red lips, pale face, blue. cold, and clammy hands. This type is called by Mackenzie X disease. The heart should be examined by the X rays, as often the narrow thorax gives the impression of increased size, especially to percussion. This should be allowed for. The heart shadow is often elongated and narrowed, so-called "drop heart," or the apex may be unduly rounded, indicating ventricular hypertrophy, a sign that the condition is organic. Functional cardio-pulmonary murmurs are very commonly mistaken for organic; they often vary in intensity with respiration or by pressure of the stethoscope. Schlieps says they only occupy the middle part of the systole, and believes this is quite characteristic. There may be an "atonic" murmur which is identical with that of mitral regurgitation, and can only be differentiated by other signs than murmurs. Irregularity of the pulse is found in 63 per cent. of unselected school children, and so is not a sign of disease; it is due to disturbance of vagus control and often disappears on exercise, the pulse at the same time becoming smaller. The radial artery sometimes feels thickened; this is not due to arterial disease. It varies from time to time and is dependent on the vasomotor control, and is not accompanied by any increase of blood-pressure. J. PORTER PARKINSON.

Heart disease in childhood (*'Am. Journ. Obstet.,'* 1915, LXXII, *p.* 176).—**H. E. Tuley** emphasises the fleeting character of endocardial murmurs in children. Right-sided lesions in the infant indicate a fœtal endocarditis of septic or rheumatic origin. Cyanosis with enlargement of the cardiac dulness or palpable thrill, or both, is one of pulmonary stenosis. If a baby dies shortly after birth the most probable lesion is pulmonary stenosis alone; but if it survives, the stenosis is associated with some other lesion. If the murmur is of the humming-top variety and propagated into the vessels of the neck, the associated lesion is probably open ductus arteriosus. If neither of these characteristics be present the complicating abnormality is defective interventricular septum. A murmur not propagated into neck accompanied by cardiac enlargement and no cyanosis is a case of deficiency of the interventricular septum alone. If the murmur is transmitted and is of the humming-top variety a patent ductus arteriosus is also present. Rheumatic nodules are frequently found in the myocardium, and if in the neighbourhood of the Bundle of His may interfere with ventricular contractions. The subjective symptoms of præcordial pain, palpitation, syncope, and cyanosis are common in myocarditis, but do not occur in endocarditis. The blood-pressure in children varies from 80 to 113 mm. of mercury. It rises in direct proportion to size and weight. The immediate mortality of rheumatic carditis is 20 per cent., and if the cases be followed for ten years 60 per cent. If the child survive puberty the prognosis is relatively good. In the presence of rheumatic endocarditis the tonsils, however slight the enlargement, should be removed. Six weeks' rest in bed, followed by massage and passive movements, should be insisted on in all cases. Rigg's disease is a serious complication, and should be treated by emetine. Strychnine is not recommended. The ice bag is approved, and digitalis and strophanthus for the stage of ruptured compensation.

CHRISTOPHER ROLLESTON.

Endocarditis in children, its prophylaxis and treatment in an out-patient department ('*Boston Med. and Surg. Journ.*,' 1915, CLXXIII, *p.* 348).—**R. S. Eustis** writes a preliminary report after nine months' study of the above subject. The questions before him are two in number: first, is it possible to treat heart cases with prolonged rest at home with only such supervision as can be carried out from a hospital out-patient department? To this question the author returns an answer in the affirmative provided that some such method as he details is employed. The second question which he sets himself is—does this prolonged rest prevent the development, or moderate the severity, of chronic heart disease in later life? To this question, which most regard as settled, the author is not yet prepared with a reply from his own experience. The supervision from the out-patient department is conducted partly by the doctor in charge and partly by a social worker who visits and reports on the home treatment of each case on the lines of a tuberculosis "dispensary" in this country. The paper hardly brings out sufficiently clearly, perhaps, the importance of estimating the presence or absence of *active* rheumatic infection before drawing conclusions about the value of rest or any other line of treatment. Taking all cases, the author regards the percentage of his series in which endocarditis was present as 25 per cent. or less. Taking only such cases as were not regarded as showing endocarditis when first coming under treatment, he finds that only 6·8 per cent. developed it, while 18 per cent. more were grouped as "suspicious." As will be seen from this short *résumé* of his paper, the writer lays a great deal of stress on valvulitis as opposed to myocarditis.

REGINALD MILLER.

Notes on rheumatism in children ('*Lancet*,' 1915, I, *p.* 1284).—**Mary H. Williams** believes that rheumatism is a disease which almost always begins in early childhood, and that in its crippling effects it is second to none. It is responsible for a large amount of heart disease and for an infinitely larger number of cases of ill health which are frequently labelled "debility." The author discusses the significance in children of "growing pains," pyrexia, tachycardia, nervousness, "bilious attacks," chorea and anæmia—many of which conditions should, in her opinion, be regarded as of rheumatic origin. She maintains that heart disease in the child is practically always due to rheumatism. Three important points in treatment are (*a*) rest; (*b*) "keep warm and dry"; and (*c*) good food.

J. ALLAN.

Articular rheumatism, endocarditis and pericarditis in scarlet fever (*Bull. et mém. Soc. méd. Hôp. de Paris*, 1915, XXXIX, *p.* 793).—**Nobécourt, J. des Camiers and Tournier.**—Among 262 cases of scarlet fever in soldiers, 22 developed rheumatism, 6 of these presented endocarditis, which in 2 cases was associated with pericarditis. The mitral valve was

affected in all the 6 cases, and in 2 of them the aortic as well. All recovered (cf. BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 20).
J. D. ROLLESTON.

The value of prolonged rest in the treatment of heart disease in the young ('*Lancet*,' 1915, II, *p.* 602).—**G. D. Barton.**—This paper is based on five years' results of a cottage home for the treatment of valvular disease in boys. It has been found that if the heart lesion has been brought on by chorea the cases do not do so well as those where valvular trouble due to acute rheumatism is being dealt with, and this may be attributed to the impossibility of keeping the boy quiet enough with other boys playing around him. The cases where compensation has hopelessly broken down begin with a month in bed—perhaps two or three months. When the boy begins to get up he starts making wool mats, rugs, etc., which gives him an interest and keeps him employed. Later, when he can walk half a mile or so, he earns a little money by cleaning brass work at one of the private houses near by, and later still he goes out for the whole morning as boot-boy, cleans bicycles, etc. Then, if he likes private service, a permanent situation is found for him. The success in the majority of cases appears to be due more to prolonged rest, good food and country air than anything else, digitalis and other heart drugs being occasionally required.
J. ALLAN.

Some problems connected with the out-patient treatment of children with heart disease ('*Boston Med. and Surg. Journ.*,' 1915, CLXXIII, *p.* 352).—**Clara M. Welsh** starts with the idea that "heart disease is a social disease and needs social treatment," and she writes of her four years' experience as a social worker among 264 children afflicted with heart disease. Evidently for strict rest in bed to be undertaken at the child's home, the visitor will have many difficulties to encounter with "unbelieving parents." Nevertheless she is of opinion that where home treatment can be really properly carried out, it is superior to convalescent home treatment.
REGINALD MILLER.

Rupture of heart in a child ('*Lancet*,' 1915, I, *p.* 647).—**J. Anderson** reports this case, which is of interest, (1) on account of the age of the child, and (2) on account of the occurrence of a congenital stenosis of the coronary arteries and other manifestations of inherited syphilis. The history was meagre and unsatisfactory. The child, a somewhat neglected and poorly nourished girl, 5 years of age, was alleged to have had good health up to the morning of her death. The woman in charge left the child in bed in the house by herself, and on her return about half an hour later the child was found sitting on the floor, looking ill and complaining of sickness. Death occurred before medical assistance was obtained. At the necropsy the pericardium was found distended with fluid blood. A hæmorrhagic area, 1 in. in length by $\frac{3}{4}$ in. in breadth, was noted on the anterior aspect of the heart along the line of the interventricular septum at its upper third, and also a small perforation within this area. The lesion which had given rise to the rupture was of remarkable character; a hæmatoma, $\frac{1}{4}$ in. in diameter, had formed in the wall of the left ventricle and septum. Its cavity was filled with blood clot and its walls were ragged and granular. At its lower aspect it had ruptured externally into the pericardium. The thinned inner wall communicated with the interior of the ventricle by a large and irregular aperture, which was continuous with an extensive rupture across the inner portion of the posterior wall of the chamber. The torn area almost encircled the ventricle and reached as far as a point, immediately beneath the position of the left auricular appendix. The right ventricular wall was intact. The valves were of normal size, and their curtains were healthy. Examination of the coronary vessels showed a stenosis of the lumen of both arteries, and the descending branch of the left coronary artery was obliterated at the seat of the rupture and could not be traced beyond it. The histological change in the liver was such as is associated with congenital syphilis—viz., a pericellular cirrhosis. The changes in the kidneys were of the nature of the combined catarrhal and interstitial nephritis which has been met with in syphilitic infants. The presence of spirochætes was demonstrated in the heart muscle, but only after careful examination, and their numbers were few. In the kidneys they were obtained with less difficulty and were more abundant, but in spite of the presence of miliary gummata it was impossible to say that they were present in the liver. J. Allan.

Angina pectoris (‘*Edin. Med. Journ.*,’ 1915, II, *p.* 393).—**Byrom Bramwell,** in the course of an interesting and instructive paper, reports a case of typical and severe angina pectoris in a boy, aged 13, who had complained of recurring attacks of severe pain in the chest, radiating to the back, to both arms and both legs, of one year's duration. The patient had had shortness of breath on exertion as long as he could remember, and suffered from bronchitis every winter since he was 7 months old; measles at 4 years of age; whooping-cough at 5 years of age; never rheumatism, scarlet fever, or chorea. Formerly the attacks of pain came on only as the result of exertion and excitement, but latterly they occurred even while he was at rest in bed, without any apparent cause. Attacks of pain lasted about three minutes. Pulse 78; regular, small, low tension. Apex beat in the fifth interspace in the line of the nipple; pulsation in the fourth interspace and the epigastrium. Heart enlarged towards the right, dulness extending three-quarters of an inch to the right of sternum. Soft systolic murmur in the mitral area; loud systolic murmur projected into the arteries of the neck in the aortic area. Apex beat seemed fixed and there was some systolic retraction. Slight bronchitis and some emphysema. Treatment consisted in rest in bed, allaying the bronchitis, and the administration of arsenic and strychnine, and after three weeks in hospital the boy was discharged very much improved. J. Allan.

The blood-pressure in children showing orthotic albuminuria (‘*Arch. Int. Med.*,’ 1914, XIII, *p.* 39.)—**M. H. Bass** and **W. Wessler,** from examination of 26 cases, came to the following conclusions: The blood-pressure of children suffering from orthotic albuminuria differed but little from that of normal children. In spite of the apparent vaso-motor insufficiency which many of the children showed, the blood-pressure both in the upright and recumbent positions, and also after exercise, revealed no characteristic anomaly. Nor could the blood-pressure findings be correlated in any way with the findings in regard to the heart's shape and size and the pulse rate. Children with orthotic albuminuria who showed marked cardio-vascular symptoms could not be differentiated by blood-pressure tests from the remainder of the group. J. D. Rolleston.

Reviews.

THE PRIMARY LUNG FOCUS OF TUBERCULOSIS IN CHILDREN. By A. GHON. Authorised Translation from the German by D. BARTY KING, M.D. Pp. xxiv + 176. With Illustrations. London: J. & A. Churchill. 1916. Price 10s. 6d. net.

THE primary focus of pulmonary tuberculosis in childhood was described most carefully by G. Küss in 1898. He found it to be a small subpleural focus, habitually in the lower lobes, nearly at the apex. He also noted the invariable involvement of the lymphatic glands at the root of the affected lung, often with retrograde infection of adjoining groups of glands. He concluded that the infection was aerogenous. Nine years later E. Albrecht came to very similar conclusions, applying them to the pulmonary tuberculosis of adults as well as of children. In 1903 Prof. Ghon, of Prague, began to study the question, and his results are contained in the detailed essay now before us in the translation made by Dr. Barty King. These results generally confirm the views of Küss and Albrecht. In the course of two and a half years of post-mortem work at St. Anne's Children's Hospital in Vienna, between 1907 and 1909, Ghon made most careful autopsies on 184 cases with pulmonary tuberculosis. His essay consists in the description and analysis of the distribution of the tuberculous lesions of the lungs in these cases; in all of them the autopsy was made very thoroughly, particularly as regards the lymphatic glands and the portals of infection with tubercle bacilli. To quote a few of Ghon's conclusions, it may be said that he was able to dissect out a primary focus in the lung in 170 of his 184 cases. Of the 170 patients, 80 were aged two years or less. Pleurisy, in the form of adhesions or scars, was found in two-thirds of these 170 cases. The tuberculosis affected one lung in 161 instances, both in 9, the right lung being involved in 96, the left in 65 of the 161 patients, and in a considerable majority the lesion affected only one lobe. The upper lobes were more often infected than the lower, a conclusion opposed to that reached by Küss. In the case of both apices the anterior surface was the part most often attacked, and throughout the lungs the tuberculous foci occurred more often near the periphery than centrally. Ghon gives anatomical reasons for supposing that the pulmonary infection is usually bronchogenous (or air-borne) in children, and almost always gives rise to a secondary infection of the adjacent lymphatic glands. In no case was the glandular tuberculosis apparently of longer standing than the pulmonary tuberculosis; a retrograde infection of the lung from the glands was not ever observed, whether by the lymphatics or by the blood-stream. Discussing the 14 cases in which there was evidence of tuberculosis of the glands at the roots of the lungs (7 cases), or of tuberculosis with some non-pulmonary portal of infection (5 cases), or in which a positive tuberculin reaction was obtained during life without the discovery of any tuberculous lesion in the body post mortem (2 cases), Ghon shows how little these instances affect his general conclusions. Dr. Barty King has done his work as translator efficiently, though on p. 124 the word "*later*" should be "*earlier*." The book is one of great interest to those who are interested in either tuberculosis or the diseases of children, and should be widely read. A. J. J.-B.

GUY'S HOSPITAL REPORTS. Edited by F. J. STEWARD, M.S., and H. FRENCH, M.D. Vol. lxviii. Pp. 187. London: J. & A. Churchill. 1914. Price to non-subscribers, 10s. 6d.

THE war has delayed the appearance and considerably reduced the size of these well-known reports. The volume opens with a sympathetic notice of the late Mr. Thomas Bryant by Mr. Golding Bird, followed by a bibliography of Mr. Bryant's published writings, compiled by the Wells Librarian. Mr. Charles Higgens contributes an extremely entertaining article on "Charlatans and Miracles," in which he first describes the methods employed by various quack oculists, and then relates some of the "miracles" wrought by himself on persons who were either the victims of hysteria or malingerers, including two children, aged 13 and 14 years respectively.

Dr. W. Jobson and Mr. W. M. Mollison record "A Case of Tumour of the Left Cerebello-pontine Angle" in a boy aged 14 years. The growth proved to be a glioma with cystic dilatation. Some improvement followed puncture and drainage of the cyst, but hernia cerebri developed and death took place about a month after the operation. Dr. M. S. Pembrey has an attractive paper, entitled "The Advantages of Physical Games over Set Exercises," from which we quote the following: "There is a medicinal flavour about set exercises; some are called nutritive, others corrective, and others depletive. Most of them cause undue fatigue, lack interest, and are monotonous. The breathing exercises are unsound in theory, and in practice increase the danger of infectious diseases, owing to the spray of saliva discharged from the mouth. . . . The child's games are the ancestral means of training, and any attempt to displace them by systems of physical culture based upon set exercises is a sign of ignorance."

In a "Note on Urobilinuria in Heart Failure," Mr. E. J. Cooke and Dr. N. Mutch show that urobilinuria serves as a delicate indication of overdistension of the hepatic venules caused by partial cardiac failure.

Drs. Pembrey and S. H. Ryffel write on the "Clinical Significance of Respiratory Variations in Health and Disease." Dr. R. A. Chisolm contributes a review, entitled "Some Problems of Experimental Nephritis," followed by a bibliography of 135 references.

The only article relating to the war is a paper by Mr. Lindsay Locke on The X-ray Appearances of Some Bony Injuries caused by Modern Projectiles."

The volume concludes with an account of the new laboratories of the Bacteriological Department at Guy's Hospital by Dr. J. W. H. Eyre.

J. D. R.

YOUR BABY: A GUIDE FOR YOUNG MOTHERS. By EDITH B. LOWRY, M.D. Chicago: Forbes & Co. 1915. Price $1.

DR. LOWRY has written a very useful little book upon the care and education of the infant. It combines in an unusual degree medical knowledge, simplicity, and sound common sense. In one or two particulars we note a difference of practice between this country and the United States. For instance, we are told on p. 204 that "after a baby is a year old, it is best to have vaccination performed," and as to its necessity it is urged that "it is best to be on the safe side." Sometimes Dr. Lowry seems to us to exaggerate. It is well to sound a bold note at the beginning of a preface, but we know of no evidence to support this statement, the first in the book: "It is estimated that nearly half the babies born into this world die before they are a year old."

Nevertheless the book takes rank among the best of its kind. H. C. C.

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Original Articles.

VASCULAR DISEASE IN THE YOUNG.

By Charles W. Chapman, M.D., M.R.C.P.,
Consulting Physician to the National Hospital for Diseases of the Heart.

That the arteries are liable to degenerative changes at and after middle life, the effects of which vary from the almost negligible to the severe, is well known; but that similar changes fraught with serious consequences may occur in the young is not so generally recognised. The oft-quoted saying that "a man is as old as his arteries," although in the main true, needs modification, for some men have tortuous arteries at 50 and yet continue an active life to old age, while a like condition occurring in the young is inimical to normal development and tends seriously to shorten life.

The present writer's interest in the subject of this article was stimulated by his attendance at the special discussion on "Inherited Syphilis" by the Society for the Study of Disease in Children held in 1907 and published in the Reports of the Society for 1908. To this discussion, and to the recently published work on 'Diseases of the Arteries' by Sir Clifford Allbutt, he desires specially to acknowledge his indebtedness.

George Carpenter, in his contribution to the discussion, went over the effects of inherited syphilis on the various organs of the body, including those of the heart and blood-vessels. After reference to recorded cases of lesions of the myocardium and valves as a result of inherited syphilis in children from six weeks to six months, we are told of cases of extracranial aneurysms in the young collected by Le Boutillier, among which is one of aneurysm of the abdominal aorta in a fœtus of 8 months, and seven cases of aneurysm of the thoracic aorta under 10 years. In many cases the aneurysm was associated with syphilitic arteritis.

Sir Clifford Allbutt ('Dis. of the Arteries, etc.', 1915, i, pp. 170–2) quotes Bourgignon to the effect that arteriosclerosis, formerly regarded as a "normal malady" of old persons, is becoming every day more and more precocious. Von Romberg's youngest case was aged 12 years. In some cases, besides more or less enlargement of the heart and thickening of the arteries, the heart had failed in rhythm, or a systolic murmur appeared at the apex. Several other authors are referred to as having reported juvenile cases from 12 to 14 years due to infections. Hirschfelder had a case of a boy of 6 years ill of acute nephritis and pneumonia following bacillus coli abscess in the buttocks and a bacillus coli cystitis. The blood-pressures were continuously low throughout, yet the accessible arteries became thickened and tortuous. The boy made complete recovery, and the arterial affection passed away. O. Müller noticed palpable arteries in young persons under puberty, in some of whom the left ventricle was hypertrophied and the second aortic sound reinforced. These patients are "bilious," the tongue heavily coated, abdomen tumid, and motions offensive. Under a gentle mercurial and other appropriate remedies the whole trouble clears up and, after a while, the arteries recover their normal quality. Dr. Ainslie Hollis found elevated patches in the aorta of a boy aged 11 years who died of appendicitis. Other cases of adolescence have been recorded. Infection of one kind or another has generally been the cause of these vascular changes; thus Simnitzky, calculating from necropsies, reported 37 cases of altered arteries at ages from 2 to 25; that is 27·5 per cent. of his series of autopsies on children. For the most part there were no direct clinical symptoms. In all of them the changes were of the arteriosclerotic type; and in 18 out of 37 the history of infection was definite and belonged to one or other of the following kinds: Rheumatic fever, diphtheria, scarlet fever, smallpox, pneumococcus, tuberculosis; in all but seven an infection had occurred. Syphilis was not included in the series. A. C. Jordan ('Lancet,' 1903, i, p. 515) recorded a case of fatal aneurysm of the ascending aorta in a boy aged 6½ years. The heart and aorta were otherwise healthy, but a septic focus was observed in one ear. There was presumably a septic ulcer in the aorta due to septic embolism of the vasa vasorum.

Endarteritis and arteritis, though they occur in infections, are rarely recognised in the young. Cautley ('Dis. of Infants and Children,' 1910, p. 455) quotes cases of calcification of the aorta, peripheral arteries, and valves in young children, some apparently non-syphilitic. He collected 38 cases of aneurysm under 20 years of age; 25 under 13 years. The ratio of boys to girls was 2 to 1. In 31 the site was: Thoracic aorta 6, abdominal aorta 3, iliac 1, femoral 5, popliteal 2, tibial 4, carotid 3, axillary 2, ulnar, dorsalis pedis, cerebral, coronary and innominate 1 each. Calcification of all the peripheral arteries, the iliac like pipe-stems and the aorta hardly affected, have been reported at the age of 6 months (Hale White), calcareous degeneration of the media of the aorta and pulmonary artery at 6 days (Durant), calcification round the mitral orifice at 2 months (Goodhart), calcification of aorta and valves at 2 years (Moutard) and of the temporal artery at 15 months (Hodgson), and a few other cases in older children, all apparently non-syphilitic. Wiesel, of Vienna, thus describes the course of events in arteritis of the infections. About the end of the first week changes become visible in the aorta, carotids, and coronaries, etc., as minute yellowish patches, some presenting calcareous points. Under the microscope these changes are found interspersed in the arterial tree and peripheral vessels. The first change is an infiltration in the media and vacuolation of the muscular layer; then the elastic fibres break up and the muscular coat undergoes necrosis. The most important etiological factor in arterial degeneration is syphilis, congenital and acquired. It was the base of the majority of cases collected or reported by Lévy-Frankel ('Arch. des mal. du cœur,' 1912, v, p. 625), although rheumatism, scarlatina, and typhoid fever had their victims.

The following four cases were published in vol. viii of the Reports of the Society for the Study of Disease in Children along with other cases of congenital syphilis, and in the BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908:

CASE 1 (George Carpenter).

A boy, aged 5 years, was brought by his mother to the Evelina Hospital on June the 10th, 1895. The labour was a difficult one, and he was born with snuffles. Six weeks before his birth his mother was laid up with "influenza and pleurisy." There had been five children of the marriage, one of whom had died from "inflammation of the brain" at 3 years. All the children had "snuffles" at birth, and "some of them had rashes." There had been no miscarriages or still-born children. There was a history of rheumatic fever in both parents, and phthisis on his mother's side. He was a badly nourished, ill-developed child, with a pallid face, oral cyanosis, and loud and laboured breathing. On examination there was found enlargement and tortuosity of the arteries about the scapular and abdominal regions. In the armpits the subscapular and long thoracic arteries were thick, tortuous, and pulsating. The pulsation could be distinctly seen, and the arteries were very hard. A thick pulsating vessel could be felt crossing the subclavian triangle on both sides. This appeared to be the transverse cervical artery. . . . The axillary arteries felt enlarged and hard on both sides, and they were decidedly tortuous. The brachial arteries felt like whipcord ; pulsation was well marked in them, and they were slightly tortuous. The radials did not appear to be thickened. A feeble pulse at the wrist was detected in both radial and ulnar arteries. The superior epigastric and superficial epigastric arteries could be seen pulsating and felt beneath the skin. The former was enlarged and tortuous, more so on the left side. The femoral arteries were small, felt like rigid cords, and very feeble pulsation could be detected in both of them. Feeble pulsation could be felt in the anterior and posterior tibial arteries. The abdominal aorta could be felt feebly pulsating through the abdominal wall. . . . The deep epigastric arteries could be grasped bimanually, and were found to be enlarged and tortuous. . . . A collection of enlarged and tortuous vessels were detected in the pelvis, especially in the neighbourhood of the sacro-sciatic notch, feeling like a collection of worms on either side. Thick vessels were also found coursing along the posterior wall of the rectum. Microscopical examination of one of the superficial arteries of the abdomen showed it to be apparently healthy, the thickening being due to well-nigh empty and contracted arteries. *Heart.*—Cardiac dulness was not extended on the right. The sound was natural at the apex, but basic systolic bruits were audible on both sides. The murmur was more audible on the right side. The liver and spleen were both enlarged. *Osseous system.*—The parietal bones showed bossing. *Skin.*—There were linear scars at the left angle of the mouth and two small circular scars on the right buttock near the anus. *Fundus oculi.*—Tubercles were found on the choroid. The boy was taken home and escaped further observation.

I consider Dr. Carpenter's opinion that this was a case of congenital syphilis, and that the state of the arteries was caused by that disease, is justified.

In Case 2, reported by Charles W. Chapman, granular kidney was an additional effect of the inherited disease on the arteries.

A girl, aged 15 years, was admitted into the Hospital for Diseases of the Heart on October the 15th, 1905. She had always been delicate, but her parents did not trouble about her health until three weeks previously, when advice was sought on account of extreme difficulty in breathing, and swelling of the feet and legs.

Previous history.—Snuffles as a baby, pertussis at one year, and pleurisy at twelve years.

Family history.—Both parents were living and in fair health. An uncle on the father's side died of phthisis. The mother had had two children born at term, of which the patient was one, and the other died of marasmus at 8 months. There were four miscarriages.

Present condition.—The child's development was that of one six years her junior, while her face had an aged aspect. The nose was much depressed, and had the appearance of that seen in old syphilitics. The patient complained of severe asthmatic attacks which were worse at night, palpitation and general weakness.

On examination the face was pale, there was puffiness under the eyes, and there was visible carotid pulsation. The cardiac dulness began at the lower part of the second space; the apex was in the sixth space, nipple line; the lateral dulness was from the mid-sternal line to 4 c.m. external to the left nipple line. The impulse was heaving at the apex, while at the base a tick-tack sensation was felt on palpation; the action was cantering in character. No thrill or murmur could be detected, but the aortic second sound was at times accentuated. Pulse 104, hard, small, and regular; the radial arteries were hard, and rolled under the finger, the brachial and carotid arteries were thickened. There were a few crepitations at the base of the left lung, back and front. The liver was down to the umbilicus. Urine sp gr. 1010, contained albumin 2½ per cent., a fair number of coarsely granular casts so broad as to suggest an origin in tubules denuded of epithelium. There were a few renal cells and red blood discs.

The first three months the patient's condition materially improved, but on December the 24th she vomited 8 oz. of blood. By January the 14th the respiration had become 40 to the minute without any definite change in the lungs. The percentage of albumin increased, until by May it had reached 10 per cent. The dyspnœa was relieved by nitro-glycerine and dry cupping over the loins. On May the 19th there were convulsions, and on the 31st the patient died.

At the post-mortem examination on the following day the heart, especially the left ventricle, was found to be enlarged and the cavities dilated; it weighed 12 oz.; the muscle was pale, and the valves competent. There was no atheroma. The liver weighed 38 oz. and was pale; the spleen weighed 6 oz. Both kidneys were markedly granular; the right weighed 2 oz., the left 1½ oz. The arteries were generally thickened. There was no evidence of the alleged pleurisy.

That this was a case of syphilitic endarteritis and nephritis there can, I think, be no doubt. There was a strong history of syphilis in the mother, while the facies and retarded development in the patient pointed to inherited taint. It would appear that in the second case the disease affected the skin and nasal bones in infancy, while the vascular system fell a prey to the infection at a later period of life.

CASE 3.—A case of syphilitic cortical sclerosis in an infant aged 5½ months (George Carpenter).

A girl, aged 5½ months, was admitted at the Evelina Hospital in February, 1903. Her mother had had one other child, which was born dead. The mother's hair came off afterwards. The infant was healthy at birth with the exception of its eyes, "which appeared to be crossed," it had "snuffles" at a month, and was unable to suck. Convulsions began by a sudden movement of the left arm. The movements spread to the right arm and then to the legs. There was a macular eruption on the buttocks. The face was flushed, the respiration 70 to the minute, and grunting, the nose depressed, and the eyes moved in every direction. The head was retracted, and all the limbs stiff. The fingers were flexed into the palms, and the thumbs flexed and adducted. The arms were generally flexed and adducted, the legs flexed on the thighs, and the thighs on the abdomen. There were patches of choroidal atrophy in both fundi.

Abbreviated record of post-mortem examination.—There was atrophy of both hemispheres of the brain, with extensive areas of sclerosis. In the cerebral vessels the most striking change was a small celled infiltration of the adventitia. It may here be remarked that in syphilitic arteriosclerosis the adventitia is affected before the intima, and that it is at this stage that treatment may do good.

CASE 4.—Mitral stenosis and regurgitation; thrombosis of right cephalic vein.*

A girl, aged 15 years, was admitted into hospital under the present writer's care in May, 1896. She complained of cardiac pain and shortness of breath on exertion, of two months' duration. History: Chorea at thirteen years, which lasted six months. The heart was considerably enlarged in the lateral direction. There was a well-marked thrill at the apex, and a double mitral murmur; the pulmonic second sound was moderately accentuated. Liver little enlarged. Urine sp. gr. 1015, no albumin. The patient steadily improved, and was discharged on July the 8th. On October the 15th she was readmitted with all her previous symptoms greatly aggravated. Temperature, 101·4° F; legs swollen and breath very short. The presystolic murmur was longer and more churning in character than previously. There was imperfect resonance and deficient breathing at both bases of the lungs. There was ascites, and the liver was enlarged nearly to the umbilicus. The patient had been going on well up to October the 19th, when she complained of an aching pain in the right shoulder. The following morning there was considerable swelling of the arm from the wrist to the insertion of the deltoid, the veins were enlarged, and the hand dusky. The radial pulse was less on the affected side. By the following morning the swelling had extended to the supra-clavicular region. By December the 8th the œdema of the arm had entirely gone, as also had the ascites and the œdema of the legs. The patient gradually improved up to January the 28th, when breathing became more difficult. On February the 11th the dyspnœa was urgent, and the expectoration blood-stained. Examination showed a large patch of dulness at the right base, with coarse *râles* on both sides of the chest. On the following day pleuritic rubs were discovered on the left side. The urine was loaded with albumin. On March the 13th the urine was devoid of albumin and the lungs clearing up, and at the expiration of five weeks the patient was sufficiently well to return home. The foregoing brief abstract illustrates (1) severe heart disease after chorea only; (2) attacks of pulmonary apoplexy, patches of pneumonia and pleurisy, probably due to infarcts in the lungs; (3) sudden and severe albuminuria from renal infarct; (4) thrombosis of the cephalic vein; (5) the possibility of a child being able to go through so many complications of valvular disease and recover sufficiently to be able to walk about again.

Diagnosis.—There is generally either an infective disease present or a history of the child having recently gone through one. In rheumatic fever it is in the later stages when aortitis may occur.

In aortitis there is decrease of resonance over the manubrium, and probably a systolic thrill over the aortic area. In percussion, especially with children, the impact of the percussing finger should be light, or the altered sound will escape recognition. Besides which there is a risk of frightening the patient and possibly giving actual pain. In arteritis there is swelling of the affected limb, with pain and tenderness in the course of the inflamed vessel or vessels. When the coronary artery is affected nutrition of the myocardium suffers. In the examination for arterial thickening it is not sufficient to palpate the radial or dorsalis pedis vessels, since these smaller vessels may show but little sign of being affected, while marked thickening and hardening with tortuosity is apparent in the brachial and femoral arteries. This, by the way, is equally true in adults.

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* 'Heart Disease in Childhood and Youth,' Charles W. Chapman, p. 67.

Since syphilis is so largely responsible for arterial disease, the possibility of this source of infection being present must always be borne in mind, especially in chronic cases. A history of "snuffles," a rash on the buttocks in early infancy, the presence of linear scars at the angles of the mouth, bossing of the parietal and frontal bones, together with the facies, should excite suspicion of an inherited syphilitic taint, while a history of miscarriages in the mother will support the diagnosis. The Wassermann test, if positive, would be confirmatory; on the other hand, a negative result would not necessarily exclude syphilis. The urine should be examined for albumin and casts in all cases.

Prognosis.—This must depend largely on the virulence and intensity of the infection to which the arteritis is due. In cases where the most probable cause is the absorption of toxins from the intestine, if there are signs of improvement after a mercurial purge, the prognosis is good. It is not uncommon to find a child suffering from chronic poisoning due to persistent over-feeding, or to the ingestion of improper food over a long period. The complexion becomes pale and pasty through the toxæmia, and the pallor is not infrequently attributed to anæmia by the mother, who forthwith doses the patient with ferruginous tonic and codliver oil, which only make matters worse.

Treatment.—This will obviously be chiefly that of the infection causing the arteritis. In acute cases the limb should be fixed, and moist heat applied. In chronic cases treatment will be that required for the organs affected. In those cases where faulty feeding is shown to be the cause by the foul breath, offensive motions, etc., a mild calomel purge followed by rhubarb and sodium bicarb. will generally be followed by a satisfactory result. At the same time the dietetic errors of the past must not be repeated. In chronic cases the condition of the urine should be watched from time to time, and the child should be well protected against a chill if the kidneys become affected. In syphilitic cases the treatment appropriate to that disease should be followed and the diet nutritious, excess in nitrogenous food being avoided. The present writer has used a colloidal form of iodine such as iodex rubbed over the sternum in cases of aortitis with benefit.

THE COMMON SPEECH DISORDERS OF CHILDHOOD.

By JOHN PRIESTLEY, M.R.C.S.,
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THE common disorders of speech in childhood may be divided into the essential and the accidental. The latter may be briefly dismissed. They consist of cases of indistinctness of various degrees of importance; some are trivial, although troublesome to deal with, such as indistinctness from hoarseness, from a habit of mouthing the words, or from muttering; others are due to extrinsic diseases, such as blockage of the posterior nares by adenoids, temporary paralysis of soft palate, cleft palate or other malformation of mouth or teeth, tumour of tongue, etc. With these accidental disorders may perhaps be classed the indistinctness or peculiar tone of speech due to defective guidance of the ear in deaf children, though the ear is, strictly speaking, an essential factor in speech production.

The essential speech disorders are sometimes divided into (1) *defective or imperfect articulation*, and (2) *stammering* (with some allied conditions). The terms are not altogether felicitous, for articulation is often very defective both in stammerers and in children suffering from the accidental disorders of speech. The term defective articulation must therefore be strictly defined.

It denotes that kind of faulty enunciation which is characteristic of the babbling of very young children. These faults, which are universal at age 2–4, are apt to persist into, or even beyond, school life, under two types; they may persist *en masse*, and the condition is then called *idioglossia*, or they may persist in respect to particular sounds only, and it is then known as *lisping*.

The proportions in which these various disorders occur are of practical interest. They have been noted in Staffordshire for several years at the routine inspections of children of different age periods. We may take the averages of the successive years 1909–12 as representative. The numbers examined each year were about 20,000, boys and girls in approximately equal proportions. It is true that only children of 5–6, 8–9 and the leavers, 12–14, were examined,* but for reasons too lengthy to state now it may be accepted that the percentages obtained from the above selected ages are fairly representative of the whole. The average proportions are as follows:

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* In 1912 are included a few children of other age periods.

Accidental indistinctness -	6 cases per 1000 children.			
Defective articulation (*i. e.* lisping and idioglossia) -	8	,,	,,	,,
Stammering - - -	4	,,	,,	,,

Thus the total number of common defects of speech of all sorts is about 1·8 per cent. of school children. This is about the percentage in which organic heart disease occurs in Staffordshire children. Stammering occurs in 0·4 per cent. of children, or in about the same proportion of cases as mental defect.

The nature of the essential speech disorders, lisping, idioglossia, and stammering, can only be understood in the light of a theory of speech. Speech is a flow of modulated sound made up of primitive instinctive noises combined into artificial or conventional sequences, and used for the expression of ideas and emotions. Thus there are three stages in the mechanism of speech, (1) the primitive instinctive noises, (2) the combination of these into sequences or words, and (3) the use of words for expression. These three stages are served by nervous centres and associations which are successively less and less primitive and fundamental in the same order.

The primitive instinctive noises begin in the earliest days of life as cries, which are usually a reaction to something unpleasant. They consist of the various vowel sounds, oh, ah, ee, oo, ay-ee, etc. About the end of the second month other sounds, equally instinctive, begin to be heard. They have a tendency to be reduplicated, and the uttering of them at this stage is known as lalling (*lallare*, to utter inarticulate sounds). The chief sounds are am, mam-mam, roo, errer, arrar, bab-bab, da-da, gug-gug, ka-ka, together with licking, sucking, cooing, smacking, bubbling, and hissing noises. They generally denote a happy frame of mind.

These primitive cries and lalling sounds require for their production what are really highly complex co-ordinations of neuro-muscular actions, but the important point is that they "come by nature." In this respect they are like standing and walking; they have not to be "learnt" in the same sense as whistling or dancing have to be learnt. They evolve, it is true, through effort and failure, but it is done spontaneously and infallibly, and the nervous mechanisms subserving them, like those involved in standing, etc., are amongst the most fundamental and old-established in the body.

The next step in speech is the combination of these primitive sounds into words. This is an entirely artificial and conventional matter. We need only recall the fact that whereas all children of whatever nationality (so far as I know) lall in the same manner, just as they all stand and walk alike, the words they make out of lalling sounds differ widely according to national, sectional, and social environment. This word-building has the same relation to lalling that dancing has to walking, and the nerve-centres which control the operation are unquestionably of a higher grade—less primitive and fundamental—than those of lalling; or at least we may say that the mode of action of the centres is less primitive and fundamental. The stage of word-building may begin as early as six months, at which age somewhat precocious infants under the impulse of mimicry have been known to repeat words parrot-like; but it is commonly somewhat later.

The art of combining lalling sounds into clearly enunciated words is one of considerable difficulty. In most cases it takes the best part of two or three years, *i. e.* until about the age of three, to acquire it, during which time "defective articulation" is the natural mode of speech.

The third stage of speech, which is that of speech in relation to thought, begins long before the second stage is perfected. It may be said to have begun when the child can repeat heard words intelligently, even if not yet accurately, and can apply them to things, and this commonly occurs at about 15 months, though it may be earlier. This stage of speech as the exponent of thought touches our highest human attributes, and its operations involve the highest and, biologically speaking, most recently developed of our nervous organs.

Assuming this graduation in three stages to be a true account of speech, cases of defective or imperfect articulation, *i. e.* lisping and idioglossia, may be explained as a failure in the mechanisms of stages 1 and 2, while stammering means a failure in the mechanism of stage 3.

Lisping.

Lisping, an onomatopœic word, has reference primarily to difficulties in the pronunciation of the "s" sound. There are several varieties of the difficulty, but they need not detain us now. "S," however, is not the only difficult sound, and it is convenient in the absence of any commonly accepted generic term to use "lisping" to cover all cases of similar difficulty. Essentially it denotes the inability to shape or organise the various organs—lips, teeth, tongue, expiratory muscles, etc.—so as to produce the elemental sound in question. It is thus a defect of the power of co-ordination. Theoretically speaking, the defect might lie in the nervous centres or associations proper to the primary and instinctive lalling sounds, or it might be in these subserving the combinations of lalling sounds into words. Probably in most cases it is the latter, for it is frequently demonstrable that the sound only fails in certain combinations; thus a child who apparently is unable to say the "k" sound in "corner," and always calls it "torner," may yet be able to say it in "Jack." It may, however, be admitted that some few cases of incorrigible lisping are to be looked upon as due to faults in the more fundamental mechanisms of lalling.

Lisping may occur over almost any letter, but those most liable to it are s, g, l, r, and the sounds dependent on the soft palate. If one of these letters occurs in a word and a child cannot pronounce it, he must either slur over the gap or put in some other sound. Both expedients are freely used. "Th" generally takes the place of "s"; "t" sounds are put for "k" sounds ("dud boy" for "good boy"); "r" is most frequently slurred over, but "w" "l," or "y" may be substituted for it ("a wainy—lainy—yainy day" for a "rainy day"), etc. Labials and dentals, which are more firmly learnt, presumably because of the greater practice of lips and gums in suckling, are especially apt to be thus used on emergency.

IDIOGLOSSIA.

Idioglossia is a more serious affair; in it almost every consonantal sound may be blurred, clumsy or unconventional. It amounts to a child having a language of its own, at any rate for the purposes of expression; for children who have idioglossia are commonly able to understand ordinary speech. Reciprocally it is not difficult to understand the various dialects of idioglossia, though it might not be so easy to acquire fluency in speaking them.

To illustrate idioglossia some careful transliterations of the nursery rhyme of Jack Horner may be given; each line was said slowly and distinctly to the child, and he repeated it while it was fresh in memory.

W. H. B—, boy, aged 6 years and 3 months.

E—e Jack 'Orner
'A i' i torner
E—e a Tis-i pie
'E put i' 'is fum
Pund ou' i pum
A aye ot a dud boy i I.

S. T—, boy, aged 6 years and 2 months.

Lil Jack 'Ornie
Sat i' a cornie
E—e a Thma' pie
'E pu' i' 'is thum
And pu' out a pum
And thaid what a good boy am I.

L. B—, boy, aged 6 years and 3 months.

Ick 'Ak 'Orki
'At i' cork
Eating a Kik-pa
Put i' gum
A' pu' ou' a pum
A' gu' wh' gam.

These examples illustrate well the principles of idioglossia language; the vowel sounds are fairly correct, the difficulty is to form the consonants; syllables are dropped, and words are clipped before and behind; consonants in sequence offer peculiar difficulties, and the second is simply omitted—pum for plum; the usual lisping errors—th for s, n for l, f for th, t and d for k and g—are seen; and often one sound tends to draw others into its orbit, as when a child says "Wiwie" when he intends to say "Willie," or as in the case of the boy quoted above who said, "Ick Ak' Orki 'At i cork."

STAMMERING.

Nature of Stammering.—The nature of stammering is often misunderstood, and ideas of treatment have thereby suffered. It is sometimes described as a spasmodic affection, but though spasmodic action may accompany it, the primary condition is one of paralysis or embarrassment.

To stammer, as the root meaning implies, is to be at a stand in speech, to hesitate, as for example in the case of the boy caught stealing in the orchard or the actor in stage-fright.

This is natural or physiological stammering, but stammering the disease is essentially like it; it is a sudden arrest in the automatic flow of speech. A large part of speech is purely automatic; when a particular sequence is started the whole reels off. This applies not only to the constituent syllables of words and the words of all familiar phrases, but to much of speech as the exponent of a developing train of thought.

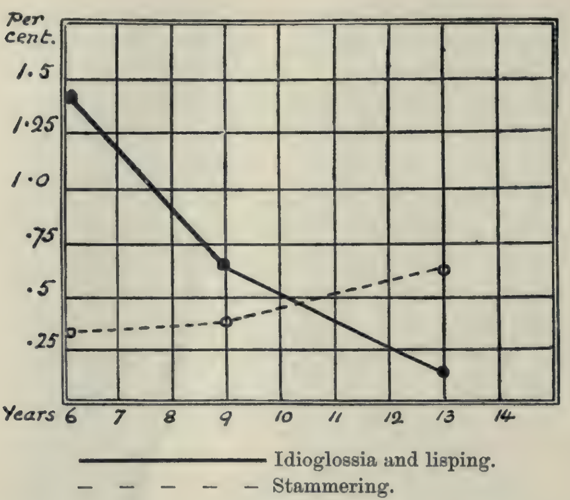
The automatism depends on the interplay of delicate neuromuscular actions, and at any point the necessary connections may be broken. Such a break is the essential element of stammering; speech is arrested as suddenly as a watch is stopped by pushing a horse-hair among the wheels; withdraw the hair and the watch goes on again.

How exactly this break is effected and what plays the part of the horse-hair we do not know. In the cases of physiological stammering quoted above there is an absolute confusion of mind and blank of thought, but complete confusion of thought is not essential to paralysis of movement, as we may realise, at least on the subjective side, from the experience of nightmare in which the mental operations are often perfectly clear and yet we feel we cannot stir a limb.

It is apparently the highest nerve centres and association systems of the brain which are the seat of the above-mentioned delicate neuromuscular actions at the basis of ordered speech. It is well known that in stammerers those lower and more fundamental neuromuscular mechanisms concerned in the production of mere words and their constituent lalling sounds are usually in perfect working order. Although baulked by a particular word or syllable in one part of the sentence the stammerer will just as likely have no difficulty with it in another. Moreover, even bad stammerers can without hesitation sing or whisper what they want to say. In other words the fundamental powers of word production are perfect, it is merely initiation and control that are faulty.

Thus there is a profound difference between stammering and idioglossia or lisping, in which latter conditions, as already remarked, the fault lies in the more fundamental nerve centres. In a word, idioglossia and lisping are most probably true physical disorders, the necessary nervous associations have not yet been established, or are somehow, and for the time being permanently, at fault; possibly actual nerve strands may be lacking. On the other hand stammering must be classed with the psychic disorders such as hysteria, stage-fright, and the "phobias," and it shares with all of these their transitory, inconsistent and unpredictable character.

A futher hint of an essential difference between stammering and lisping or idioglossia may be gathered from the different effect of age on the prevalence of these ailments. The difference is well shown in the following diagram founded on the records of more than 80,000 children from the years 1909–13:



The diagram indicates that idioglossia and lisping are oftenest met with early in school life, viz. in the proportion of 1·38 per cent. at ages 5–6; at age 8–9 the proportion is 0·73 per cent., and at the average leaving age 0·22 per cent. In other words there is during school life a reduction to one-sixth of the numbers present at age 5–6. On the other hand, stammerers occur in the proportion of 0·3 per cent. among the youngest children, 0·43 per cent. midway in school life, and 0·66 per cent. at the leaving age. That is to say, there is apparently a doubling of the numbers of stammerers in the course of school life. The case of the stammerers is, however, really much worse than this, for alongside the constant and large accession of new cases there is all the time going on a considerable process of spontaneous cure. It may be called spontaneous because few of these cases ever have any treatment whatever, and still fewer adequate treatment. Of 62 cases of stammering found at the routine inspections of 1911 we were able to follow up 33 for a period of three years, and in that time about 33 per cent. had completely lost their stammering; others had improved and about 45 per cent. were no better or were growing worse. If this experience may be taken as a fair sample the real increase in the number of new cases as children grow older must be much more considerable than the diagram indicates.

Types of stammering.—Stammering occurs in two types, stammering and stuttering. The most elementary form of stammering is a simple aphasia; it is the plainest manifestation of stammering as a paralysis or inhibition. You ask the child a question and he remains mute almost as if he had not heard—no twitching, no straining or flushing, only a certain look in the eye, patient and a little concerned, tells you what is going on within. Then in a few seconds the answer slips out quite simply, merely belated; the child could not begin. Most stammerers, however, in their desperate effort to start, make wild and apparently meaningless movements. They set the lips, the muscles twitch and roll, the face flushes, the eyelids quiver, the head may shake, the feet stamp, and the whole body in extreme cases may be violently convulsed, and yet not a sound comes. Just so a man who is straining to recall a forgotten name frowns, snaps his fingers, and stamps on the floor with his foot.

In both cases just cited the stammerer cannot begin. In others he begins quite well and sets his speech organs for the first syllable of his reply, but there he stops. He may mean to say "I don't know," but he cannot pass from the complex vowel sound "I," or rather he cannot pass from the first half to the second half of it ("a—e"). He may spend some seconds over the "a" and then tumble out "dunno" with startling rapidity. Or take another case: he sets his teeth and lips for f in father, but he cannot get on to the following vowel; he cannot even "breathe" the f. Often when the difficulty takes this form the attempted letter will be abandoned after a second or two without being "breathed," and the rest of the word, "ather," comes out quite naturally and easily. As a rule the initial letter or syllable of the sentence is the stumbling block, but any letter may serve.

Stuttering is not essentially different from stammering. There is the same sudden block at a certain point in the flow of speech and an inability to slide into the formation proper for the next sound; but instead of dwelling on the blocked point the stutterer perpetually harks back in the hope of a more successful "jump off."

Conditions Allied to Stammering.—There are certain faults of speaking which are allied to stammering in that they are transitory functional faults of control. One of these is the trick of speaking on the ingoing, instead of the outgoing, current of air. It is often noticed in stammerers, but still more often in connection with the next fault to be mentioned.

This is a curious habit of speaking for which there is not a good English expression. It is sometimes called spluttering or sputtering, from the spitting out of droplets of saliva, but this symptom is rarely present. Moreover, sputtering suggests friction and difficulty, whereas the cases referred to suggest rather a sort of tempestuous case. Speech rushes out in a tumultuous torrent; one word tumbles over another, initials and finals are knocked off and words telescoped in a surprising fashion. Imagination is working at top speed, and the channels of output must be served with the utmost expedition. It is the very opposite of stammering, a diarrhœa rather than a constipation. The speaker can always curb himself and speak with common deliberation.

In chorea the respiration and speech muscles, like every other, may exhibit uncontrolled movements and simulate stammering.

Sex Distribution.—The relative immunity of girls as compared with boys in regard to all the common speech defects has been already discussed in this JOURNAL.* There are three to four times as many boy stammerers as girls.

Some Remarks on Treatment.—As regards the treatment of speech defects we are still in the culture stage of "professors" and "systems." I do not say this derisively, but quite respectfully, for almost all medical treatment has had to pass through the system-mongering stage. It is not, however, the final and clear-eyed stage, and the time is perhaps ready for an advance.

Lisping and idioglossia require a totally different kind of treatment from that of stammering. Many cases get well spontaneously, though by no means all. Where educational treatment is needed the general principles would seem to be those proper to the teaching of new co-ordinations of movements, as for example in swimming or dancing. The child must be shown what is expected of him, and put in the way of doing it. The positions of tongue, lips, etc., required for the right pronunciation of the sounds must be impressed on the child's understanding by letting him see, hear, and touch the acting organs of his teacher. The child's own tongue should, if necessary, be directed by means of a probe or bone crochet needle.

Above all, careful search should be made in the child's own vocabulary for some word in which he unwittingly gives the difficult sound its right pronunciation. It is surprising how often this happens. The boy, W. H. B—, referred to above, always said "torner" for "corner"; but he could say "Jack" perfectly well, and he could also say "orner." By bringing the two into contiguity in a sentence and gradually shortening the interval, such a child can often be got to pass through "Jack . . . orner," "Jack-orner," "Jackorner," till he arrives at "corner."

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* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, xi, p. 113.

The children should be practised in distinguishing the sounds of allied letters, just as Montessori children are practised with different colours and smells.

Another method is to find out the nearest wrong sound the child can make; he perhaps cannot say "Sarah," but he can say "sharer," and you then try to work from one to the other by scarcely perceptible shades of difference.

These children easily tire, for the whole difficulty is a feeble or imperfect organ; not more than two or three minutes' practice should be given at one time. We must rely mainly on natural growth of the organ, and practice must be regarded rather as a stimulus to growth.

The teacher should carefully study the formation of his own mouth when uttering speech sounds, and so be ready with detailed directions, but he must always be content when the correction is arrived at by the child in its own way.

Stammering calls for an absolutely different kind of treatment; or, to be precise, it calls for the avoidance of the methods above described as proper to lisping, etc. There probably is no one right or best method for stammerers. The most diverse methods have their tale of marvellous successes, and this is not difficult to understand in the case of a disorder in which, as has been suggested, 33 per cent. of the cases may all the time be undergoing spontaneous cure.

The fact seems to be that stammering is about as amenable to treatment as hysteria, stage-fright, or agoraphobia, neither more nor less; that is to say, we are dealing with temperament and nervous constitution, and the danger of relapses will always be present. The doctor or teacher who establishes an ascendancy over the patient will be most likely to effect a cure. Much of the treatment based on the physiology of breathing and an intimate knowledge of the phonetics of each letter-sound is beside the mark, save as a sort of placebo or means of augmenting confidence and self-possession.

Each case requires a perfectly individual method which only a large experience—and I will add a freedom from a too firm belief in one's own system—can suggest. But we can say more confidently what not to do. Anything in the nature of repeated trial under the risk of repeated failure is fatally wrong. Reproof or manifest disappointment of the teacher, so good in many other cases, is here out of place. Infinite patience, the skirting of difficulties and "looking the other way," ignoring failures, or even treating them as successes, these are some of the general principles of the treatment of stammering.

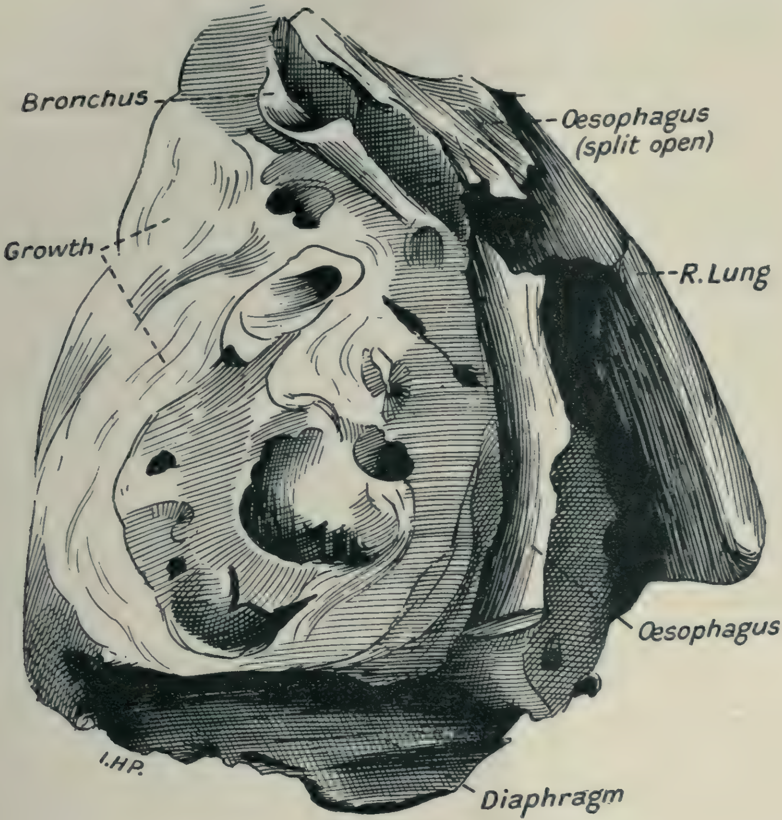
INFILTRATION OF HEART BY LARGE ROUND-CELLED SARCOMA.*

By E. Cecil Williams, M.B., M.R.C.P.,
Physician to the Royal Hospital for Sick Children, Bristol.

The specimen was removed from a boy, aged 8 years, who was admitted to hospital with a history of pain in the left shoulder joint; he had been seriously ill at home for six weeks with cough and much expectoration; two weeks before admission he suffered from vomiting, swelling of the eyelids, and orthopnœa. On admission he was cyanosed, respirations 44, pulse 112. The area of cardiac dulness was increased, and the heart sounds were muffled, but there was no distinct murmur. Rotch's sign was present. There was no marked præcordial bulging. Two weeks after admission he was much less cyanosed and could lie down on his pillow, after ℥iss blood had been removed by venesection. The area of cardiac dulness had diminished, and he remained much better for a couple of weeks, when a friction sound (pericardial) was heard over the sternum. He then began to get gradually worse, with increasing dyspnœa and some œdema of the feet. There was never any difficulty in swallowing, nor was there any paralysis of the vocal cords. The urine only contained occasionally a trace of albumin. The right lung was dull at the base, and there were scattered moist sounds heard behind. The left lung was very dull at the base, the breath-sounds were weak, and two ounces of yellow fluid were withdrawn with an exploring needle. There were no enlarged veins over the abdomen, the liver could be felt about four fingers' breadth below the costal margin—there was no free fluid in the abdomen. The boy died on November the 26th—about seven weeks after admission. The diagnosis was one of pericarditis with effusion and possibly an adherent pericardium. The autopsy, however, showed the anterior mediastinum to be full of a white, hard growth, adherent to the sternum and invading the visceral and parietal layers of the pericardium, so that the two layers were indistinguishable. Below the growth invaded the diaphragm. The heart itself was encased in the hard growth, which invaded the heart muscle itself. The mitral valve was thickened and appeared infiltrated—there was no stenosis. There were some scattered areas of growth in both pleura, and in each there was blood-stained fluid. In the left pleural cavity there were many tough adhesions. There

* The case was reported to the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 28th, 1916.

was no enlargement of either the cervical or axillary glands. Prof. Walker Hall kindly examined a section of the growth and declared it to be a large round-celled sarcoma, probably originating in the sternal periosteum. Osler and McCrae in their 'System of Medicine' say that primary malignant growth in the pericardium is very rare.



Infiltration of heart by large round-celled sarcoma.

They quote a case of sarcoma of the pericardium reported by W. H. Broadbent ('Trans. Path. Soc. Lond.,' 1882, xxxiii, p. 78), where the symptoms were pain in the shoulders, dyspnœa, and pleural and pericardial effusions; also a case by J. C. Williams and A. L. Miller ('New York Med. Journ.,' 1900, lxxi, p. 537). They say that secondary growths, arising in the mediastinum or other parts are scarcely more frequent, and that malignant growths of the heart itself are usually secondary to malignant disease of neighbouring or distal parts, and that in a few cases the growth invades both peri- and myocardium. They quote a case in which the left ventricle was almost entirely invaded by new growth. They state there are no symptoms characteristic of myocardial new growth, and that the diagnosis is either impossible or a matter of good fortune.

Philadelphia Pediatric Society.

October the 12th, 1915.

Œsophagotomy for Foreign Body in the Œsophagus.—Dr. Nathaniel Ginsburg.—A boy, aged 6 years, was admitted to hospital on June the 28th, 1915, with a history of having swallowed a foreign body forty-eight hours previously. On admission to the hospital the child had a temperature of 100·2° F., pulse 100, respirations 24. His mother stated that at the suggestion of a man he swallowed a thin metallic washer of about the diameter of a twenty-five cent piece. Swallowing was difficult, only liquids passing down the gullet without difficulty. The voice was somewhat brassy and respirations somewhat laboured. Radiographic examination revealed the foreign body with a perforation in the middle lodged in the gullet on a level with the fifth cervical vertebra. The broad surface of the foreign body presented anteroposteriorly. An operation was performed on June the 29th, 1915, under ether anæsthesia. An incision about 6 in. long was made over the anterior border of the left sterno-mastoid muscle, beginning about the middle of the muscle and passing down over the manubrium. The dissection was carried down to the omo-hyoid muscle, the carotid sheath with its contents was retracted laterally, and the thyroid gland was held to the median side, rotation of the trachea exposing the œsophagus. The left recurrent laryngeal nerve was exposed in the field of operation and avoided. Two traction sutures of silk were inserted in the dorsal surface of the œsophagus, which was lifted from its bed and a longitudinal incision made and the gullet opened. The foreign body in the upper angle of the wound was removed with forceps, and the incision of the œsophagus was tightly closed with interrupted catgut sutures. The lateral aspect of the œsophagus contiguous to the incision was packed with iodoform gauze and the incision in the neck was closed, the gauze projecting at the lower angle of the skin wound. The operation was comparatively easy, and the patient was not allowed anything by mouth for twenty-four hours, He was caught, however, on the night of the operation emptying a bowl of ice water, but apparently suffered no deleterious effects therefrom on the next day. The packing was removed from the lower angle of the wound on July the 3rd because of discolouration. Liquids taken by mouth exuded through the cervical incision, and continued to do so for a period of three weeks following the operation. On the nineteenth day following operation there was a sudden rise in temperature, which was of the septic type and which persisted for five days, but otherwise recovery was uneventful, and at the present time the patient was well and attending school. He had had some harshness of the voice and a left traumatic torticollis which had cleared up, and was probably the result of severe retraction of the sterno-mastoid muscle during the operation. Dr. Ginsburg had chosen this method for the removal of the foreign body because of the certainty with which it could be reached, the fear that impending perforation of the œsophagus was present, and realising that, if the latter state existed, incision in the neck would afford drainage from the œsophageal fistula. The comparison of the foreign body removed with the shadow shown on the plate at once showed the tendency of X-ray shadows to oversize the object sought for. In this instance the shadow showed a diameter of at least ⅛th of an inch greater than the actual diameter of the foreign body.

Malaria.—Dr. Eleanor C. Jones showed a coloured infant with malaria, and demonstrated the plasmodium of tertian malaria in the blood. The child, aged 5 months, was breast-fed, and weighed 13 lb. 8 oz. The mother took the baby to Arlington, Virginia, on July the 24th, where the mother herself and an older child also contracted malaria. The baby was brought back to Philadelphia on August the 5th, but had no clinical symptoms until August the 12th, and then seemed suddenly to collapse. It became very cold, lips blue, and the face looked pinched; after about twenty minutes it revived. Then a high fever set in and lasted about four hours. It had these attacks, so the mother said, every day for the first two weeks, and then every other day, and it also developed a severe diarrhœa. On September the 24th a specimen of blood was taken and the "plasmodium vivax" found. The blood did not show any of the hyaline or segmented type of organisms, but only the granular form. The temperature was 106·2° F. on the day of admission, and 5 gr. of the bisulphate of quinine was administered on the 26th, three hours before the expected cold stage. The temperature in this paroxysm rose to 104° F. Then 3 gr. of the quinine were given three times a day for the next seven days, or until the baby left the hospital. The spleen remained slightly enlarged, but no more paroxysms occurred. The mother was advised to continue the quinine one week out of each month for one year.

Infantile Scurvy.—Dr. J. R. Wells showed a child, aged 12 months, with acute epiphysitis of scurvy, and demonstrated the lesion with X-ray pictures. This child came to him with a history of a sudden onset of pain in the right lower extremity and a doubtful history of injury to this leg. The child cried when the right limb was touched and refused to move it. This child had been breast-fed for a month, and since that time had been on Eskay's food. On examining the child he had found an undernourished, anæmic appearance with slight evidences of rickets, and the gums showed several blood-filled blebs. On examining the right leg no evidence of fracture or dislocation was found, only pain and some swelling. The treatment consisted of a straight posterior splint and a change of diet to a rational milk formula. After two days' treatment, during which the child seemed very comfortable, there was noticed considerably more swelling of the right leg with an area of ecchymosis, and a diagnosis of acute epiphysitis of scurvy was made. The only other treatment consisted of ½ oz. of pure cod liver oil rubbed into the abdomen daily.

Pyloric Stenosis.—Dr. G. Victor Janvier showed a child aged 3½ years with probable pyloric stenosis. He had first seen the child two years before and had been treating it since. The family history had no bearing on the present condition, and the chief complaint was that the child was often unable to retain any kind of nourishment. The vomiting in this case was not projectile, but was described by the mother as " rolling up and rolling out." While examining the child the only noticeable thing was that it had just a shade of cretinoid expression, although no other signs of cretinism appeared. As yet there had been no gastric analysis in the hospital, although six months before an unsatisfactory one had been done which showed hyperacidity. The blood and urine reports at the present time were negative, although at different times this child had had some casts, acetone, oxalates, and indican in the urine. His vomiting at the present time was quite variable. Sometimes he would keep down even solid food fairly well, and at other times would vomit everything given him.

Ringworm of the Scalp.—Dr. John F. Sinclair showed three cases illustrating the cure of ringworm by X rays, and also the different stages of the process of regeneration of the hair in the affected area.

Enlarged Bronchial Glands.—Dr. Sinclair.—The child came to him when aged 5 years with a history of a cough from very early life. In spite of repeated examinations he could find no explanation of this cough. Several specialists decided that the adenoids and tonsils were not responsible. The ears were negative, except for a small amount of impacted wax. Finally he had some X-ray pictures taken, which showed that the right apex was not quite as clear as the left, and that in the region of the middle lobe of the right lung there were several enlarged glands and a few also in the region of the left upper lobe. The child was put on ascending doses of potassium iodide. Another X-ray picture taken some months later showed that these glands were gradually diminishing in size.

Pyloric Spasm.—Dr. Theodore Le Boutillier showed a child brought to him with a history of projectile vomiting occurring at irregular intervals. The weight at birth had been 9 lb., but when first seen the child weighed only 6½ lb. He had never done well on the breast. He vomited frequently but irregularly, and the mother said she had been told to take him off the breast and put him on a milk formula, which, however, did not improve the condition. Examination showed a poorly nourished, emaciated child, with sunken fontanelle, flaccid abdomen, and gastric peristalsis very marked, three typical attacks occurring during the examination, the wave extending from the œsophageal to the pyloric end. There was a history of retention of food for from six to eight hours followed by projectile vomiting. No pyloric mass was palpable. The following treatment was ordered: The child was to be fed every hour and a half for eight minutes and also was given bromide and nux vomica and brandy every third hour before breast feeding. During the first twenty-four hours after the treatment was started the child only vomited once, and during the second twenty-four hours but twice. The breast feedings were gradually increased in length, and then in the interval between feedings until at the present time the child was being fed for twenty minutes every two and a half hours. It had continued to improve, gaining from 4 to 8 oz. in weight each week, and there had been no vomiting for one month. He was now aged 5 months, weighed 10½ lb., and was perfectly normal with the exception of a slight enlargement of the spleen.

It was important in cases of this type to make a careful examination of the child, and one should also hesitate a long time before taking it off the breast.

Epilepsy apparently benefited by the Injection of Crotalin.—Dr. Harry Lowenburg.—In the family history of this case he could discover no consanguinity or any history of other epileptics. The child had been fed for one year and three months on breast milk. At ten months of age the child began to have typical convulsions which continued until the treatment was begun three months ago. It was a backward child and had not yet talked. The hearing was apparently normal. At times it had flashes of intelligence. At first he gave 1/300 of a grain of crotalin, but had now increased the dose to 1/75 of a grain. He was afraid to increase the dosage as he had had one fatality in a child from giving a larger dose. In this fatal case there had been no convulsions for a year, but he had continued giving crotalin when suddenly on giving the child an injection it developed a typical rattlesnake bite and died. In the present case crotalin had seemed to have done some good. The child had had altogether from 12 to 15 injections since the treatment was begun, and had had no more convulsions.

Anaphylactic Food Reactions.—Dr. Albert Strickler showed a child, aged 19 months, with eczema of the face and involving the back of the ears, who had been injected with fourteen different kinds of food stuffs.

Anaphylactic food reactions had been done on children for a long period of time. The usual dose was 1/10 c.c. of the substance. Dr. Strickler had injected about sixty children with proteins of varying doses, and in all these cases 1/10 c.c. did not give any reaction in children in an apparently normal condition. No reactions were considered positive unless they remained for twenty-four hours. A positive anaphylactic reaction to a certain substance did not mean that the reaction of that substance was the cause of the child's condition, but this should be considered only as one part of the symptom-complex.

Spastic Diplegia.—Dr. William Drayton, Jun.—A schoolboy, aged 8 years, came to the hospital on September the 22nd, 1913. The chief complaint was that he was unable to walk more than a short distance. The family history was negative. The mother had "membranous croup" during pregnancy. The labour lasted about five hours, and no forceps were used. The child was the second of three children, and was a bottle baby. He had had influenza. The mother said that about an hour after the child was born he developed "spasms," which were almost continuous for three days, since when they had never recurred. He did not walk until 4 years of age; was aged 3 years before he could sit up; and talked at 1½ years. During the last year while in school he had grown better and walking had improved. On examination he appeared very thin, very pale, and had constant but slight athetoid movements in both hands and legs. When standing unsupported he was in pretty constant movement. No spasm of the face either at rest or when talking, but the neck muscles were involved. He could lie down and get up from the floor without difficulty. Knee-jerks were difficult to obtain on account of the spasticity. Stroking of the right sole caused marked slow extension of the great toe and fanning of the other toes. Stroking of the left sole caused fanning of toes without much extension. Left Achilles jerk was fairly marked, the right scarcely obtainable. No ankle clonus. Mental state good. Pupils reacted to light and accommodation. Tongue clean and teeth good. Station poor. Gait spastic, drags toes. Right arm also spastic, left much better. Wassermann negative in the blood and cerebro-spinal fluid. There was no globulin in the spinal fluid, and the cell count was 4. Fundi negative. About 70 per cent. of these cases showed positive Wassermann, and even cases showing negative Wassermann often improved with mercury and iodide. At the Orthopædic Hospital these cases were treated with massage and slow exercises. This child had improved somewhat under mercury. He was of sufficient interest to show because these cases were too often sent to the hospital by physicians with a diagnosis of infantile paralysis.

Clonic Spasm of the Muscles of the Neck and Back.—Dr. DRAYTON.—The patient was a girl, aged 7 years. The mother died of hæmorrhage when six weeks pregnant. The father, one brother, and one sister were alive and well. The patient was first thought to have chorea. The nervousness had been present ever since birth. Physical examination showed a systolic murmur at the apex. The knee-jerks were increased. Lower extremities quiet. Wassermann positive. The child had a most peculiar swaying movement of the head, neck, and back. There was a perfectly rhythmic motion of the muscles of the neck and back which was always worse on observation and stopped when the child was asleep.

Spleno-myelogenous Leukæmia.—Dr. ARTHUR NEWLIN showed a boy, aged 10 years, with a very much enlarged spleen which extended as far as the pubis inferiorly and across the median line. The blood showed 3,000,000 reds and 400,000 whites, of which 21 per cent. were myelocytes, Under small doses of benzol the white count had been reduced to 200,000.

Epileptiform Convulsions.—Dr. DAVID R. BOWEN and Dr. NEWLIN showed a boy, aged 9 years, who since the age of 1 year had had weakness of the right side, the arm, leg, and right side of the face being affected. The convulsive seizures also dated from that age, though the parents were unable to state which condition was noted first. The convulsions were general, now occurring about once a month. On examination he was found to have a slightly hemiplegic gait with some wasting of the muscles of the right arm and leg, with increased reflexes on the right side. His eye-grounds were negative, as was also the Wassermann reaction in the blood and spinal fluid. A pair of stereoscopic plates showed an oval density in the left fronto-parietal region. This was interpreted as a possible blood clot with calcareous degeneration, and as a probable etiologic factor in both the hemiplegia and the convulsive seizures.

Congenital Deformity of the Upper Limbs.—Dr. JOHN SPEESE.—The child had only one arm at birth, the other being completely absent. The arm showed complete ankylosis at the elbow, the forearm being in the position of extreme pronation. There are three fingers present, and in spite of the lack of supination and the absence of motion in the elbow-joint the boy was able to use his arm and hand with considerable dexterity. The X rays showed that the humerus was fused with the single bone present in the forearm, and that there was absolutely no evidence of an elbow-joint. On the opposite side there were several rudimentary bones present in the soft tissue of the shoulder representing the undeveloped bones of the arm.

On this side there was a decided elongation in the region of the vertebra indicating the formation of a cervical rib. On account of the fusion of the bones in the region of the elbow-joint, operative procedures were thought inadvisable.

Congenital Heart Disease.—Dr. JOHN B. CARSON showed a specimen from a patient aged 4 weeks at the time of death. It was while under treatment for enteritis. It was doing very well, when it had a sudden attack of cyanosis and died within a few minutes. The autopsy showed a well-developed, widely patent ductus arteriosus. The foramen ovale was also patent. Nothing else was abnormal, except that the kidneys were slightly cystic. At no time was there a murmur or was a change in the percussion area of the heart demonstrable.

Abstracts from Current Literature.

Treatment.

The newer antitoxin treatment of diphtheria (*'Lancet-Clinic,'* 1915, CXIV, *p.* 655).—**C. A. Stammel, Jun.**—For the last two years a large initial dose has been used at the Cincinnati Contagious Hospital with good results. In a series of 286 cases from June, 1913, to October, 1914, only 18 died, a mortality of 6 per cent. Thirteen deaths were due to laryngeal diphtheria within one hour to two days after admission. The routine was as follows: 10,000 units in mild tonsillar diphtheria, 10,000 to 15,000 in moderate cases of two to three days' duration, 20,000 to 30,000 in severe faucial cases, 30,000 to 40,000 intravenously when nasal or nasopharyngeal inflammation complicated the faucial condition, 40,000 to 60,000 in neglected malignant cases, 30,000 to 60,000 in all laryngeal cases. No bad results followed the use of these large doses. The writer recommends intramuscular injections for moderately severe cases.

J. D. ROLLESTON.

The treatment of persistent diphtheria infection by means of diphtheria endotoxin (*'Lancet,'* 1915, I, *p.* 275).—**R. Tanner Hewlett** recommends, in persistent diphtheria infection, diphtheria endotoxin in doses of 0·5 c.c., 1 c.c., and (if required) 1·5 c.c. at intervals of about seven days. Of twenty-four cases thus treated, in seventeen the bacilli disappeared within a reasonable time after the use of the endotoxin; in one the bacilli did not disappear until seventeen days after the last dose of endotoxin, and in six the treatment was unsuccessful. In no case has any untoward effect been noticed. The endotoxin is injected into the muscle of the upper arm or back, and gives rise to some pain, tenderness, and swelling, lasting a day or two, at the site of injection, and occasionally to some malaise, rash, and rise of temperature. The author thinks that the results are such as to warrant an extended trial of the endotoxin in the treatment of these troublesome cases of persistent diphtheria infection. Short notes of four cases are given.

J. ALLAN.

The use of convalescent and normal blood in the treatment of scarlet fever (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 875).—**A. Zingher** advocates the intramuscular injection of the blood of convalescents or of normal individuals in cases of scarlet fever, whether of the early toxic or malignant type or later septic cases. In the former convalescent blood is used, while in the latter normal blood is to be preferred on account of its nutritive and stimulating properties and its well-known antibody content. In young children half an ounce and in older children and adults one ounce is injected into each of the following regions: triceps, both thighs (vastus externus), the calves (soleus), and both gluteal regions. Good results have been obtained in a limited number of patients.

T. R. Whipham.

The vaccine treatment of some complications in scarlet fever ('*Journ. State Med.*,' 1915, xxiii, *p.* 202).—**A. Love** points out that the most common complication in scarlet fever with which vaccine therapy is concerned is otorrhœa, and the treatment should be commenced as soon as a purulent discharge has been established. It is suggested as a means of saving time that whenever a mixed growth is obtained, a mixed or polyvalent vaccine be prepared right off, instead of subculturing, in order to obtain a special organism, which after all may not be the causal organism. If this is done and a sufficient growth obtained, the vaccine can easily be ready for use in thirty-six hours. It is wise to begin with small doses and gradually increase them; the nature of the organism, too, will naturally govern the initial dose, a smaller number of streptococci, for example, being administered than of staphylococci. The author does not estimate the opsonic index, because it takes too long: it also requires delicate and accurate manipulation, and seems to be in practice quite unnecessary. The index he depends upon in practice is the general condition of the patient and the temperature reaction. Two cases successfully treated by this means are reported in a boy and a girl both aged 13 years. In conclusion the author strongly advocates the inclusion of autogenous vaccine therapy in the routine treatment of scarlatinal otorrhœa and other more trifling complications, as it greatly reduces the duration of the discharge and appears to effect a rapid and permanent cure without being in any way detrimental to the patient's welfare. J. Allan.

The vaccine treatment of typhoid fever in the child ('*Rev. med. Arg.*,' 1914, xxii, *p.* 965).—**M. Acuña** alludes to the cases described by Méry (*vide* British Journal of Children's Diseases, 1914, xi, *p.* 176), Guinon (*ibid.*, *p.* 224), Comby (*ibid.*, *p.* 267), Netter (*ibid.*, *p.* 335) and others, and records 19 personal cases in children aged from 4 to 13 years treated by Vincent's vaccine; 13 were injected subcutaneously and 6 both subcutaneously and intravenously. Moderate doses were given at first, and gradually increased every two days. Thus on the first day 100 to 150 million dead bacilli were injected, in another two days 375 million, then 500 million, and lastly 700 to 1000 million. As a rule four to five injections were needed to obtain complete apyrexia, or a total of 2–3 c.c.—*i. e.* 2000 million bacilli. The intravenous injections produced a marvellous result, causing a very rapid change in the temperature and the typhoid state. Subcutaneous injections had a slower and less vigorous action; recovery gradually took place after four or five injections. The treatment has an obvious effect upon the typhoid state and the temperature curve. The general condition quickly improves, and convalescence is rapid and complete. The treatment also has a favourable action on the course of the disease, which becomes less severe and of shorter duration. Its action is most remarkable during the first week of the disease; it is less striking in

the second, and uncertain in the third. The moderate forms respond better to treatment than the severe, for whom intravenous injections are to be preferred. Vaccinotherapy does not prevent secondary infections and relapses.
J. D. Rolleston.

Treatment of typhoid fever in children by injection of specific vaccine (*'Thèses de Paris,'* 1913–14, No. 263).—**P. Pruvost** has collected statistics of 98 cases of typhoid fever in children treated with vaccines, including 33 personal cases. The mortality among the 98 cases was 3·06 per cent. The doses used by Pruvost were as follows: Above 5 years of age, $\frac{1}{4}$ c.c. (100 million) of Vincent's polyvalent vaccine the first day, the second day $\frac{1}{2}$ c.c., the third day 1 c.c., the fourth day 1 c.c., and a few days later the final dose of 2 c.c. Below 5 years of age an initial dose of $\frac{1}{8}$ c.c., rapidly increased. The consequences of the vaccine treatment are classified under two heads: (1) Vaccinal reactions, which appeared immediately after the injection and were of short duration. Their occurrence was inconstant. Any of the following might be observed: A painful erythematous nodule at the injection site, increase in size of the spleen much more frequent after the use of Vincent's autolysat than after use of the polyvalent vaccine, rise of temperature, diarrhœa followed by constipation, transient albuminuria, eruption of rose spots, and leucocytosis of four or five days' duration. (2) Effect on the disease itself. The vaccines did not appear to affect the physical signs, such as enlargement of the spleen, rose spots, or bronchitis. Improvement might occur in the general condition and the nervous symptoms, and the duration of the disease might be shortened, but the chief benefit of the treatment was reduction in the number of relapses. Unfavourable results were of two kinds: (1) Cardio-vascular. Marked hypotension followed injection in seven of Pruvost's cases. (2) Infective phenomena, *e. g.*, boils, abscesses, pemphigus, cholecystitis, appendicitis, and broncho-pneumonia have been attributed to the use of vaccines by some authors, but none were observed in Pruvost's cases. The use of vaccines is contra-indicated in late cases (after the twelfth day), or in ataxo-adynamic cases with marked hypotension from the onset and pronounced infective symptoms. J. D. Rolleston.

Pertussis vaccine (*'Therap. Gazette,'* 1914, xxx, *p.* 14).—**O. H. Kelsall** treated 30 cases of pertussis in children aged from 2 months to 12 years, the great majority under 3 years, with a vaccine prepared in a 1 c.c. solution containing 50 million killed bacteria. At first he used a dose of 20 to 25 millions, but later got better results by using 50 millions. In every case improvement occurred, the paroxysms were rendered milder and less frequent. The disease in most cases was shortened to four weeks, and there was a practical absence of complications. There was only one case of broncho-pneumonia and one death. J. D. Rolleston.

The treatment of epidemic meningitis (*'La Pediatria,'* 1915, xxiii, *p.* 637).—**M. Ponticaccia** reports the case of a boy, aged 10 years, treated ineffectually with antimeningococcic serum, and intraspinal injections of iodised serum, who recovered rapidly and completely after three intrathecal injections of hydrogen peroxide 20 per cent., the two first containing 1 c.c. and the third 2·5 c.c. The fall of temperature was temporary after the first two and permanent after the last in a manner that leads the author to consider that there was a direct connection between the recovery and the treatment. Vincent Dickinson.

Vaccine treatment of gonococcal vaginitis in children (*'Rev. méd. del Uruguay,'* 1915, XVIII, *p.* 79).—**A. Carrall** treated 15 cases aged from 5 to 12 years with Nicolle's vaccine in doses of ½ to 1 c.c. in subcutaneous or intramuscular injection. His conclusions were as follows: (1) The vaccine did not cure the disease in the sense of causing a disappearance of the gonococcus in the vaginal exudate, for in only 2 cases out of 15 did the gonococcus disappear. (2) The vaccine caused a marked diminution of the secretion. (3) The injection almost always caused a febrile reaction which might reach 104° F. and be accompanied by intense headache, nausea, vomiting, and prostration. (4) The amount of vaccine used did not appear to increase the reaction, but repetition of the dose always caused a more violent reaction. J. D. ROLLESTON.

The theory of salicylate therapy in rheumatic infection (*'Lancet,'* 1915, I, *p.* 175).—**R. Miller** discusses the *modus operandi* of rheumatic infection and the *modus operandi* of salicylate treatment as applied to various rheumatic manifestations, such as arthritis, chorea, carditis, nodules, tonsillitis, etc. He briefly considers other theories of salicylate action. It is concluded that salicylate has the power of diminishing the activity of the rheumatic infecting agent, and this may be taken as the working basis of salicylate therapy in rheumatism. The drug should be administered with the sole view of controlling the bacterial activity. Of this the temperature chart is as accurate an index in rheumatic as in other infections (*e.g.* tuberculosis). Care must be taken to discriminate between symptoms directly due to active rheumatic imflammatory processes and those dependent upon toxic parenchymatous changes which may remain long after all bacterial activity is at an end. The temperature chart is the guide to the dose of salicylate to be employed. Used solely with a view to controlling bacterial activity the effective range of dosage for child or adult is usually from 60 to 120 gr. per diem. Less than 1 drachm daily is rarely sufficient; more than 2 drachms need seldom be given. Much larger doses than these have been shown to be safe if properly administered, and if necessary to gain control may be used, but for the most part "massive" doses have been administered in cases of chorea in which there was no evidence of bacterial activity remaining. Any dose greater than 100 gr. should be given, as D. B. Lees teaches, subdivided into 10 doses in the 24 hours. Large infrequent doses should never be given, particularly in children. Constipation must be avoided. The sodium salicylate should be combined with an equal dose of sodium bicarbonate; the author has not found the double quantity of soda necessary in doses of this grade. Vomiting in cases of severe cardiac dilatation may be difficult or impossible to prevent, but in other cases may be avoided for the most part. The more serious symptoms of salicylate poisoning (acid intoxication) should nowadays never be allowed to arise. J. ALLAN.

A new method of treatment of chorea in children (*'Rev. Ibero-Amer. de Cienc. Méd.,'* 1915, *p.* 32).—**C. S. de los Terreros**.—Some writers attribute a syphilitic origin to chorea, and record successful results from antisyphilitic treatment (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, *p.* 188, Weill, Mouriquand and Goyet; *ibid.*, 1914, XI, *p.* 44, Pierret; *p.* 45, Flatau; *p.* 328, Roustan). Others regard it as a neurosis of hysterical origin (*ibid.*, 1913, X, *p.* 273, Weisenburg; *p.* 517, Eastman; p. 518, Popoff), and others again as closely connected with rheumatism (*ibid.*, 1913, x, *p.* 84, Fraser, Berkowitz; 1914, xi, *p.* 89, Navarro; *p.* 130, Grabois; *p.* 273, Richards). The writer himself holds that there is a single species of germ which causes rheumatism and chorea, but that the varieties are different. He concludes that the same treatment should be employed for the two conditions. He has recently adopted in 3 cases of chorea the intravenous injection of perchloride of mercury as recommended by Huertas for acute polyarticular rheumatism in adults. The ages of the patients were from 8 to 10 years; 1 to 2 mgm. of the salt was injected three times a week until a total of 22 to 40 mgm. had been injected. The results were encouraging, but in none was recovery sufficiently striking to suggest a syphilitic origin for the disease. No bad effects such as anæmia, nephritis, or stomatitis occurred. J. D. ROLLESTON.

Extract of pituitary body of the ox in the treatment of rheumatic arthritis (‘*Med. Record*,’ 1913, LXXXIV, *p.* 608).—**C. Wallace** and **F. S. Child** report under this title the treatment of various forms of arthritis, including rheumatoid arthritis and osteoarthritis with pituitary extract. In all ten cases are reported in which the authors were gratified by the results they obtained. The preparation used consisted of 0·3 grm. of desiccated fresh pituitary body of the ox in 30 c.c. of normal saline solution, to which was added 0·3 grm. of chloretone crystals. The filtered and sterilised preparation was administered in 1 c.c. doses intramuscularly. The theory upon which the use of the extract was based is not discussed.

REGINALD MILLER.

Neo-salvarsan in cases of gangrene (‘*Ann. Paul. de med. e. cir.*,’ 1914, III, *p.* 173).—**M. Junqueira** records 7 cases, 5 of which occurred in children. (1) Female, aged 17 months, with cancrum oris following measles. Subcutaneous injection of neo-salvarsan in watery solution, followed by local application of neo-salvarsan and vaseline. Recovery. (2) Boy, aged 11 years, with malignant tumour of foot and leg. Intravenous injection. Death. (3) Girl, aged 5 years, with cancrum oris, following measles. Subcutaneous injection. Recovery. (4) Girl, aged 7 years. Cancrum oris. Subcutaneous injection. Disappearance of fever, but no other improvement. Death. (5) Girl, aged 15 years, with bedsore following typhoid fever. Intravenous injection of neo-salvarsan. Recovery. J. D. ROLLESTON.

Gangrene of the mouth: Treatment by neo-salvarsan (‘*Ann. Paul. de med. e. cir.*,’ 1915, IV, *p.* 62).—**M. Junqueira** records two more cases in children, aged 8 and 2 years respectively, successfully treated by intravenous injections of neo-salvarsan. In the first case, in which a smear showed various cocci and bacilli, among which Vincent's organisms predominated, 2 doses of 30 cgm. were given. No mention is made of a bacteriological examination or of the dose in the second case.

J. D. ROLLESTON.

Treatment of pylorospasm in infancy (‘*Amer. Journ. Med. Sci.*,’ 1914, CXLVII, *p.* 474).—**J. Ruhräh** discusses the diagnosis of cases of the symptom-complex of projectile vomiting, visible gastric peristalsis and palpable pylorus. This he regards as being found in two groups of cases. One, corresponding to the type known as congenital pyloric stenosis, he looks upon as a distinct congenital condition, although spasm may intensify the symptoms. The second group consists of cases of pure spasm which may lead in his opinion to pyloric thickening. In the congenital cases he advocates operative treatment, in the spasmodic group medical measures. The diagnosis between the two groups is mainly to be made by a consideration of the severity of the symptoms, the definiteness of the pyloric tumour, and the progress of the case under medical treatment. In the treatment of spasmodic cases the author lays particular stress upon the value of breast-milk. He also finds atropine, in doses of 1/2000 gr. every four or six hours, of use. The other details of medical treatment are also discussed. REGINALD MILLER.

On the value of emulsions of liquid paraffin and castor oil in the treatment of certain types of chronic dyspepsia in childhood (' *Edin. Med. Journ.*,' 1915, I, *p.* 100).—**Charles M'Neil** discusses the treatment of various forms of chronic dyspepsia in children over 1 year by emulsions of liquid paraffin or of castor oil. His conclusions are as follows: (1) Emulsions of liquid paraffin or of castor oil (in small non-purgative doses) are of great value in the treatment of various and apparently distinct types of chronic dyspepsia in childhood. (2) These types are: (*a*) malnutrition, frequently associated with chronic diarrhœa, and only seldom with constipation; (*b*) enuresis, with dyspeptic symptoms; (*c*) recurrent vomiting (cyclical or bilious vomiting); (*d*) recurrent attacks of fainting, or sudden pallor; (*e*) urticaria or eczema, with dyspeptic symptoms. (3) In a great majority of these diverse types of illness there is an abnormal condition of the stools: this may often be a true diarrhœa, but not seldom also merely a too soft consistence of the stool with or without the presence of mucus. Constipation was present in only a small majority. (4) A large number of these cases have followed the common infectious fevers of childhood, especially measles and whooping cough. These post-infection cases of dyspepsia seem to be particularly amenable to this form of treatment. (5) In a series of 13 completed cases of enuresis, 8 were cured and 3 greatly benefited by this treatment. (6) The action of liquid paraffin and castor oil used as described is similar. It is entirely local and confined to the mucous membranes of the alimentary tract. The action is most probably a sedative one, exerted on the unhealthy and congested mucous lining of the small and large intestines. The dose of liquid paraffin given was 30 minims three times daily, and that of castor oil 15 minims three times a day. One or other of the following powders (℞ Hydrarg. subchlor. gr. i; sod. sal. gr. ii; sod. bicarb. gr. v; or ℞ Hydrarg. subchlor. gr. i; pulv. rhei. gr. i; magn. carb. gr. iii) given at night have been found by the author to be useful adjuvants in treatment. The dietetic *régime* must be attended to, and the general recommendations given as to diet have been as follows: To stop altogether, if possible, sweets, raw fruits, sweet cakes, jam; to restrict very much soups and the red meats; to be sparing with eggs, porridge, and green vegetables at the outset; to allow freely, milk, fish, and white meats, bread and butter, the finer cereal puddings, orange juice and a little cooked fruit, and the malt preparations and foods. Brief clinical histories are given of cases in each of the groups above mentioned to illustrate various points in this treatment. The author points out that emulsions of petroleum and of cod-liver oil both enjoy a reputation in the treatment of conditions of malnutrition in childhood, and in each case the reputation is no doubt deserved, but it is certain that the remedial process is quite different in each case. Cod-liver oil is a direct nutrient. Liquid paraffin has no nutritive value, and can only subserve nutrition by its ameliorative action on the digestive surfaces of the bowel. If the digestion is at fault, the use of cod-liver oil, instead of promoting nutrition, may actually retard it, by depressing the activity of secretion in the stomach; while petroleum emulsion will often quickly improve the efficiency of digestion. Where malnutrition is therefore associated with chronic dyspepsia, liquid paraffin may be employed from the outset; while cod-liver oil should, as a rule, be reserved to a later period when the dyspepsia has been overcome or improved.

J. Allan.

The subcutaneous administration of fluid in acute and subacute conditions in infancy (*'Canadian Med. Assoc. Journ.,'* 1915, v, *p.* 894).—**R. P. Smith** treated 72 cases by subcutaneous injection of normal saline or 4 per cent. dextrose saline. Sixty-five of these were grouped as intestinal, including marasmus or decomposition, acute intestinal intoxications and fermentative diarrhœa, and the rest were cases of pyloric stenosis or congenital syphilis. The total mortality was 58 per cent., but 16 were moribund on admission. The indications for injection were loss of tissue turgor and presence of dehydration. The immediate results were an increase in weight and an improvement in the tissue turgor and in the general condition. Smith reviews his literature, including the paper by Mackenzie in the British Journal of Children's Diseases, 1912, ix, *p.* 343.

J. D. Rolleston.

Normal horse-serum in bleeding from tooth socket (*'Dub. Journ. Med. Science,'* 1915, i, *p.* 95).—**J. T. Simpson** reports the case of a boy, aged 8 years, who had persistent hæmorrhage from a socket of a tooth, in the treatment of which perchloride of iron and adrenalin proved useless. He was given 10 c.c. of normal horse-serum subcutaneously, with excellent result. To prevent serum-sickness the author advises heating the serum to body heat prior to injection, whilst it is also claimed that the previous administration of calcium salts will diminish the onset of urticaria and other skin lesions.

J. Allan.

The use for decanted blood serum after severe hæmorrhage and in hæmophilia (*'Med. Record,'* 1915, lxxxvii, *p.* 647).—**A. Judd** used the following method in two cases with success. One was a baby aged 18 months, and the other an adult aged 19 years. The blood is drawn into a clean sterilised glass vessel and kept at blood heat. It is then placed on ice and protected by cotton from the air until the blood separates from the clot, which requires from one to twelve hours. The serum is then decanted and kept on ice till required.

F. R. B. Atkinson.

Turpentine as a hæmostatic (*'Lancet,'* 1915, ii, *p.* 226).—**G. G. Turner.**—A boy, aged 8 years, the subject of hæmophilia, came under observation because of severe and persistent hæmorrhage from a small wound of the palm, all ordinary measures having failed to staunch the bleeding. The author gave directions for turpentine to be used, but on the following day he was informed that the bleeding had not ceased. On investigating the matter he found that a piece of gauze had simply been soaked in turpentine and laid over the wound like an ordinary dressing. The only result was a rather extensive blister. As the condition of the boy was alarming and the bleeding still continued, a graduated compress of lint soaked in turpentine was made and squeezed nearly dry. This was supported by a pad of wood-wool, and with a firm bandage fixed in position, and not disturbed for several days, with the result that there was no further hæmorrhage and no trouble from the blister. It is, therefore, most essential that the turpentine should be properly used. J. ALLAN.

The treatment of cervical lymphadenitis in children (*'Am. Journn. Obst*,' 1915, LXXI, *p.* 356).—**J. Epstein** recommends liq. aluminii acetat. 8 per cent., one tablespoonful to half a glass of cold water. Gauze is soaked with this solution, the excess wrung out, and the moist gauze applied to the neck, covered with oiled silk, and changed every two or three hours.
F. R. B. ATKINSON.

Treatment of recurrent sibilant bronchitis (*'Arch. of Ped.*,' 1914, XXXI, *p.* 488.—**B. K. Rachford** considers this condition is often brought about by food intoxication and is relieved by dietetic means. It is frequently present in children with a tendency to migraine, urticaria, and recurrent vomiting. Sweets, butter, fats, eggs, oranges, and all raw fruit should be eliminated from the diet, and bicarbonate of soda or other stomachic given internally. The bowels should be kept open. F. R. B. ATKINSON.

The treatment of hypertrophy of the thymus (*' Riv. di Clin. Pediat.*,' 1914, XII, *p.* 925).—**U. Franchetti** gives details of four cases and advocates the following procedure. In the treatment of hypertrophy of the thymus the functional condition of the gland must be carefully considered and the treatment should be eminently conservative. Surgical intervention should be reserved only for cases of extreme gravity which do not permit any other treatment. The method of choice in cases of moderate severity is X ray therapy, which must be conducted with much prudence, using the smallest doses necessary to obtain the disappearance of pressure symptoms, producing the smallest possible amount of involution of the organ. In slight cases a cure may be effected by more simple measures having for their object the elimination of concomitant catarrhal phenomena and the congested state of the thymus and neighbouring organs.
VINCENT DICKINSON.

Pineal gland in the treatment of certain classes of mentally defective children (*'Med. Record,*' 1914, LXXXV, *p.* 513).—**W. N. Berkeley** has based his use of pineal gland in children upon experiments on animals. In these he found that with the addition of gland substance to the diet the growth of the animal was considerably hastened. The children in whom he obtained the best results were mental defectives in the later years of childhood, in whom there were no physical stigmata. These appeal to him as possibly suffering only from some faulty cerebral chemistry, and he thinks it possible that the pineal gland exercises some influence upon this. In certain cases with this treatment he obtained a marked improvement in mental development as compared with control children. The pineal glands of young bullocks were used. They were rapidly dried, mixed with milk sugar and put up in capsules, each capsule corresponding to 150 lb. of (live) bullock-weight. One or two capsules a day were given, after meals. In no case was any harmful result observed. REGINALD MILLER.

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HEARING TESTS IN SCHOOL CHILDREN.

By Macleod Yearsley, F.R.C.S.,
Senior Surgeon to the Royal Ear Hospital; Consulting Aural Surgeon to the Royal School for the Deaf and Dumb, Margate; Otologist to the London County Council Deaf Schools, etc.

The question of a standard hearing test for school children has long been a much-debated point, and the opinions expressed have showed considerable variation. Recently the Board of Education has laid down* the forced whisper test as the standard to be followed, and 20 ft. as the standard distance. For the sake of brevity, it may at once be said that no other tests than those of spoken and whispered speech are worth the time spent upon them in testing normal children, save in a very limited number of cases, and then only in the hands of expert specialists. Before discussing the forced whisper test, however, it is interesting to trace its evolution as a routine method in the Reports of the Chief Medical Officer of the Board of Education.

In that for 1908 occurs the following passage (p. 63): "Defective hearing is a relative term, and for this reason statistics as to its frequency are seldom comparable. It is not usually practicable during the routine examination of large numbers of children to test accurately the exact condition of the hearing capacity of a child, and, indeed, such a proceeding can hardly be said to be necessary." The Report goes on to condemn the watch as a test; and suggests that the forced whisper "is probably the most suitable one to adopt generally."

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* 'Ann. Rep. of Chief Med. Off.,' 1912, p. 47.

The 1909 Report (p. 47) remarks that: "As much attention as is found practicable to give should be devoted to the examination of the hearing," and deprecates the want of uniformity in the methods employed.

In 1910 (p. 46): "Adequate examination of the hearing of children was most unfortunately neglected" is the remark made—in striking contrast to the assertion, only two years earlier, that "such a proceeding can hardly be said to be necessary."

In 1911 (p. 42) the Report states with decision that: "In most areas the estimation of the degree of defect is not carried out with sufficient exactitude. The conditions for such an examination are sometimes not altogether favourable, but in many areas insufficient attention is being paid to the subject. With a little arrangement the 'forced whisper' test occupies but a very short time and fairly reliable results can be obtained."

From the work of the Report for Lancashire, Dr. Butterworth is quoted as classifying children as *very slightly deaf* when unable to hear the whisper at 20 ft., but beyond 6 ft.; *slightly deaf*, between 3 and 6 ft.; *hard of hearing*, no whisper at 3 ft., but ordinary voice from 6 ft.; and *very deaf children.* This classification is practically that which I suggested more than six years ago,* only that I gave the normal hearing of the child at from 20 to 25 *metres*, and not *feet.*

In 1912 (p. 47) the authoritative decision is enunciated that: "The practice of applying a hearing test to all children is not, as it should be, universally adopted, and the children who are omitted are not only infants but elder children as well. Many medical officers submit to a hearing test such children only as are notified by teacher and parents. . . . It is necessary, therefore, to emphasise the view that a suitable hearing test should be applied to every child inspected." The forced whisper test is again urged, with the remark that "It is important that the distance chosen should not be less than 20 ft."

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* 'Public Health,' 1909, xxii, p. 256.

The Appendix of the Report (p. 413) contains the following return to be filled up:

Hearing (whisper)	20 ft. each ear (normal hearing)	
	20 ft.	R. ....
		L. ....
	10 ft.	R. ....
		L. ....
	5 ft.	R. ....
		L. ....

Having from 1908 to 1912, a period of four years, executed a complete *volte face* upon the question of testing the hearing in school children, the chief medical officer preserves a discreet silence in his Report for 1913, except that the table just given is repeated on p. 363.

The Report for 1914, just issued, repeats the silence and the exception. The whole cycle of change is interesting to analyse, especially when expressed in such decided language. Beginning with the authoritative statement that defective hearing is a relative term and that it is not usually practicable to test accurately large numbers of children, and *that such a proceeding can hardly be said to be necessary*, the Board leaves that side of the fence (which is, in my opinion, the right side), sits upon the top rail for three years, and then, slipping over to the other side, contradicts itself flatly by stating that "the practice of applying a hearing test to all children is not, as it should be, universally adopted," viz., the practice which the Board has already declared, and in no hesitating language, to be impracticable and unnecessary! One has only to read these Reports at once to realise that, in the portions dealing with hearing tests, we are perusing the remarks of those who have no expert knowledge of the subject.

Having thus pointed out this remarkable change of opinion—a phenomenon not infrequent in Government Offices—we may now examine the facts and evidence which are at our disposal, and from which such deductions can be made as will guide us in deciding how best to detect defects of hearing in school children.

In 1898, Dr. James Kerr* tested 194 children in the playground of a quiet suburban school with the forced whisper. The children were approached along a chalk line marked in *metres* until they heard, numbers being used rather than words or sentences. The result is shown in the following table:

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* 'Bradford School Board Triennial Report,' 1897–1900.

Age last birthday .	7	8	9	10	11	12	13	Total.
Numbers tested .	25	38	36	44	31	17	3	194
Excellent hearing (up to 20 metres) .	13	26	29	27	24	11	3	133
Fair hearing, 12 to 19	9	8	7	16	6	4	—	50
Poor hearing, less than 12 . .	3	4	—	1	1	2	—	11

From this it is seen that 61 out of 194, or 31·4 per cent., had defective hearing, but in only 11, or 5·6 per cent. was the defect marked.

Shermunski, of Petrograd,* examined 2221 school children (1318 boys and 903 girls), of ages varying from 7 to 11, by means of Politzer's test and whispered voice. He also obtained information from the parents and examined the ears and nasopharynx; 17·42 per cent. were subnormal (16·76 per cent. boys and 18·49 per cent. girls). The commonest cause was chronic middle-ear catarrh and Eustachian tube troubles (5·62 per cent.), then plugs of cerumen (4·09 per cent.), suppuration 4 per cent., results of suppuration 2·52 per cent. The home information showed only scarlatina as a cause, but by rhinoscopy 64 per cent. were ascertained to have originated in the nasopharynx. Shermunski considered that 80 per cent. of the cases were curable.

Barr, of Glasgow,† examined 600 children, and found that in each class of 50 are a dozen or more who hear badly, and who should always sit near the teacher. He suggested special "hard of hearing" classes.

Cheatle, of London,‡ examined 1000 children between the ages of 3 and 16 years and found 431, or 43·1 per cent., with normal hearing and ears free from disease.

Keller, of Cologne,§ objecting to the Prussian Minister's estimate of 2·18 per cent. as hard of hearing, gives the results of observers in different countries, which I have tabulated on page 133.

These statistics (all of which have been obtained by aural specialists of proved experience in their respective countries) will be sufficient to show the amount of hearing defect amongst school children. Taking the statistics of Kerr, Shermunski, Cheatle, Reichard, Weil, Sexton, and Bezold as the most representative, comprising 8063 children, they give a general percentage of 26·42 with defective hearing.

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* 'Zeitschrift für Schulehygiene,' 1889, p. 105.

† *Ibid.*, 1889, p. 146.

‡ 'Trans. Otolog. Soc.,' 1902, iii, p. 74.

§ 'Zeitschrift für Schulehygiene,' 1888, p. 109.

Observer.	Number examined.	Number defective. per cent.	Remarks.
Reichard (Riga)	1055	22·2	Watch test.
Weil (Stuttgart)	5905	10–30	Middle classes.
,, ,,	1105	32·03	Poorer classes.
Sexton (Washington)	570	13·0	
Moure (Bordeaux)	—	17·0	
Gellé (Paris)	—	22–25	
Bezold (Munich)	1918	25·8	heard third normal, of whom 11·3 per cent. heard 4–0 metres, instead of 25 metres.

It will be interesting now to note what percentage of children with defective hearing has been found under the new arrangements so curiously arrived at by the Board of Education, and, in examining the Reports of the different counties, it can, incidentally, be ascertained how the "unnecessary proceeding" of a universal standard test has been found to work.

In the Northampton County Report (1914, p. 20) it is stated that: "It is satisfactory to observe in the subjoined tables that the existence of ear disease and deafness was represented by less than 1 per cent. among both entrants and leavers in each case. . . . It should be noted that the forced whisper is used in the test for hearing at a distance of twenty feet for each ear for normal hearing."

Bedfordshire (Ann. Report, 1914, p. 29) gives results of 2033 children examined and 10·5 per cent. defective. Classified according to age, the percentages were:

	7–10.	10–12.	12–15.
Boys	9·8	9·5	10·4
Girls	7·5	19·6	9·8

In Stockport (Ann. Report, 1914, p. 16) the proportion of cases in which the hearing was found to be below normal was 4·7 per cent. in 1914, as compared with 2·7 per cent. the year before. "This does not show a true increase in the amount of defective hearing present among the children, but only that the uniform application of the forced whisper test has brought out a number of cases of slight defect of hearing which would otherwise have escaped detection."

In Kent (County Annual Report, 1914) 15,891 children were examined, and the number with defective hearing was 535, or 3·37 per cent. The age incidence of those defective was :

Sex.	5		6		13		14	
	No. examined.	Defective.	No. examined.	Defective.	No. examined.	Defective.	No. examined.	Defective.
Boys	3518	0·76	938	1·59	3987	6·29	58	10·34
Girls	3256	0·92	929	1·29	3135	5·93	70	11·42

This table is instructive, since the percentages in the two groups of older children are in striking contrast with those of the younger children, and suggest that defective hearing must have been greatly neglected in former years.

In Durham (County Annual Report, 1914, p. 28) it is remarked that : "There has been much dispute about the scientific value of the test, but probably under favourable conditions it is quite a reliable one. As a matter of practical politics, however, it has been found to yield unsatisfactory results, chiefly on account of the impossibility of obtaining perfect quietness in the examining room—a condition essential to the success of the test."

In the Borough of Cambridge (Report, 1914, p. 25) it is stated that : "The hearing during the past six months has been tested by the forced whisper test in accordance with the instructions of the Board of Education. It is found in practice, however, that it is by no means so satisfactory as the stop watch, and has the additional objection of occupying considerably more time. One hundred and thirty-nine, or 7·6 per cent., were found to have defective hearing."

In the Tottenham Annual Report, 1914, p. 62, Dr. Kirkhope says, regarding the Board of Education forced whisper test : "Attempts to use it were abandoned in the case of infants as the results were entirely fallacious, and it was impossible to know whether lack of response was due to shyness or deafness. Examinations were often conducted in the teachers' rooms, where 20 feet is not available. . . . The test of acuity of hearing presented by the Board of Education is that a child shall hear distinctly a forced whisper at 20 feet."

The Sheffield Report for 1914 states (p. 21) that "systematic routine examination of hearing is quite impracticable in Sheffield schools."

The Surrey County Annual Report, 1914, gives a table (26 D) of hearing tests "in the new form proposed by the Board of Education as for eyesight" as follows :

Age group.		5–6.	8–9.	12–13.	13–14.	All ages.
Number examined		—	1662	6802	3139	11,603
20 ft. each ear		—	98·0	94·3	95·7	95·2
20 ft.	R.	—	0·1	1·0	0·7	0·8
	L.	—	0·2	1·2	0·9	1·0
10 ft.	R.	—	1·7	3·4	2.5	2·9
	L.	—	1·6	3·0	2.5	2·7
5 ft.	R.	—	0·1	1·0	0·7	0·8
	L.	—	0·2	1·0	0·5	0·8
Less than 5 ft.	R.	—	—	0·3	0·4	0·3
	L.	—	—	0·3	0·3	0·3

The Norfolk County Report, 1914, tabulates the results of the test thus:

		Entrants.	Leavers.	Other ages.	Total.
		6523	7143	3276	16,942
Whisper 20 ft. each ear		99·66	98·52	98·69	98·99
20 ft.	R.	0·03	0·20	—	0·09
	L.	0·09	0·18	0·09	0·13
10 ft.	R.	0·12	0·94	1·04	0·64
	L.	0·09	0·07	0·98	0·63
5 ft.	R.	0·18	0·35	0·27	0·27
	L.	0·14	0·34	0·24	0·25

In the Newport County Report for 1914 it is stated that the forced whisper test "of 20 ft. has been adopted this year, and will be continued in future. Previously to this year it was not used us a routine method, *but every child was tested in other ways and probably very few children who were deaf managed to escape detection*" (the italics are mine). It is considered, however, that it is useful to have a universal standard test, but, after commenting upon the difficulty of obtaining absolute quiet and sufficient space, and of allowing for stupidity and shyness, it is remarked that "in future children under six years will not be done, as it was found that a large number failed to respond satisfactorily, although their hearing was otherwise considered to be normal."

The Annual Report of the Lancashire County Council for 1914 is especially interesting. Some seven pages are devoted to defects of hearing, and there is an excellent exposition of the many difficulties in the way. Although these obstacles must be patent to all school medical officers of any experience, they are worth while enumerating in order to make this article complete. The Report remarks that "It has become apparent that the whisper test has its limitations," and that "It soon became evident that the performance of the tests was impracticable in many of the schools, for one or more of the following reasons"—noise in or outside the school; resonance peculiar to certain school-rooms. In other schools, in which reliable or moderately reliable results were obtainable, the sources of error in the whisper test are summarised, and this summary may be condensed thus:

(1) Difficulty of maintaining same pitch of whisper.
(2) Different inspectors use different loudness of whisper.
(3) Variation of ease with which different words can be heard.
(4) Variation of different children in recognising certain words.
(5) Nervousness of children.
(6) Fact that a whisper can be heard does not prove that phonated speech can be heard.

Two hundred children were tested, with results thus tabulated:

Distance.		Boys.	Girls.
20 ft., each ear normal		83	88
20 ft.	R.	6	2
	L.	5	6
10 ft.	R.	4	7
	L.	7	4
5 ft.	R.	3	2
	L.	4	1
Less than 5 ft.	R.	4	1
	L.	1	1
		100	100

It is pointed out that this table (which is practically that prescribed by the Board of Education) does not give a true representation of the effective hearing of the individual children tested. To show this, the following table is given:

	Boys.	Girls.
No. normal	83	88
No. defective in both ears	6	4
No. defective in one ear only	11	8
	100	100

This gives a percentage of 14·5 defective.

Out of the twelve Annual Reports mentioned above, no special comment is made upon the test by four (Northampton, Bedfordshire, Surrey and Norfolk); it appears to be regarded as satisfactory to two only (Stockport and Kent); whilst it appears to be considered as unsatisfactory, unreliable or fallacious by six (Durham, Cambridge, Tottenham, Sheffield, Newport and Lancashire).

So far as one can ascertain from these reports, no results of a value commensurate with the time expended upon the test have been obtained. All that the new test has led to is a mass of undigested (and indigestible) statistics, many of which are probably fallacious and consequently unreliable, and none of which are of any scientific and practical value.

Given ideal conditions of application, the forced whisper test is theoretically the best and most scientific method of ascertaining defects of hearing in large numbers of children. But the conditions must be ideal, and this is precisely what they cannot be in ordinary school work. To yield reliable and accurate results, the room in which the testing is carried out must be spacious and quiet; the child should be so placed as to avoid the possibility of the sound being reflected unduly into the ear; the child should be intelligent and free from shyness, the whisper should be uniform and the words used should be intelligible (it is better to use numbers); lastly, the inspector and his satellites should possess unbounded patience and have plenty of time at their disposal. Even then there are other and more practical methods of detecting hearing defects in school children, so that testing under the ideal conditions just described is prodigal of time. In very few schools do there exist facilities for ideal testing by the forced whisper. Such test must further be based on normal hearing, which is from 20 to 25 *metres* and not feet. A metre being 1·196 yard, it is obvious that by taking 20 feet as the normal hearing for the forced whisper, an appreciable number of very early and slight defects must pass undetected, so that the Board of Education, in laying down a routine test with such confidence, has started with a fallacy! In the face of this false start, one need not dwell upon the additional difficulties. A word as to the exact meaning of the forced whisper is, however, necessary, for experience has led me to realise that there are individuals whose idea of that test is the production of a sound which resembles rather the death-rattle of a despairing and infuriated bull elephant; a bellow for which the normal limit is rather a thousand yards than twenty-five metres. The "forced whisper" is obtained by emptying the lungs of the tidal air and whispering with the supplemental air, whereby the column of air set in motion should always be the same for the individual and so should give a uniform whisper.

The failure of the new Board of Education test was a foregone conclusion, and—except that it has enforced upon School Medical

Officers the necessity for paying more attention to the detection of hearing defects amongst children—a useless one. This effect greatly compensates for its failure, since it makes for greater possibilities for the prevention of deafness. Had the Board of Education asked for advice from experts, failure could have been avoided.

But the most practical methods of detecting defects of hearing do not lie in cut and dried, uninteresting, routine tests, which weary or frighten the children and make sick the heart of the school doctor. To older children a modification of the forced whisper test might be applicable, but in the case of infants and younger children its use is farcical. The defective child can nearly always be detected by the teacher, if the latter is instructed how to do so. A suspected child should be tested to see whether he picks up his lessons properly, being placed near the teacher for that purpose if necessary. Mistakes in dictation or oral arithmetic are often due to bad hearing. Much valuable time would be saved if testing were made a *game*, as in France and some parts of the United States. In the former country, the game is known among the infants as the "*Leçon de Silence*," and the little ones are placed in a row at the bottom of the class and are called to come forward from time to time; those who fail to do so are noted and examined by the doctor. Simon remarks that "without being of absolute precision, this measure suffices to reveal those who have any defect of hearing."

In Chicago, a child whom the teacher suspects is placed in the back row of the class; then, in the course of the lesson, he is called by name. This method is applied to every child in the class in time.

Some such course as this might well replace the routine application, under great difficulties, of a set test by the school doctor. Scientific investigations of hearing are all very well in the hands of specialists for purposes of research or for application to children already found to be deaf, but their use for the detection of slight defects is comparable to the employment of the steam hammer for the cracking of a hazel nut.

NEPHRITIS WITHOUT ALBUMINURIA.*

By J. Porter Parkinson, M.D., M.R.C.P.,
Senior Physician, Queen's Hospital for Children.

As far as I can discover not a single case of this variety of nephritis has as yet been reported before this Section, and it is quite possible that many members, like myself, have not paid much attention to it. For that reason I thought it would be of interest to relate a case recently under my care in the wards of the Queen's Hospital for Children.

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* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 28th, 1916.

A boy, aged 3½ years, was admitted on November the 13th last year suffering from pneumonia. He had been ill for three weeks previously with cough and fever. The family history was unimportant. He had previously had pneumonia at the age of nine months. There were a few bronchitic *râles* scattered over the chest, and signs of consolidation in the left axilla. The temperature rose daily to 103° F. till it fell by crisis on November the 19th, after which it was normal.

The urine examined every third day showed nothing abnormal.

By November the 25th the chest was quite clear, and the boy to all appearances was well. On November the 27th slight œdema appeared on the face, and the next day the face was extremely swollen, as also were the arms, hands, feet and legs, and the wall of the trunk. There was no evidence of fluid in the chest or abdomen. From now the urine was examined daily, but no albumin was ever found. Microscopically a few granular and hyaline casts and an odd red corpuscle or two were found on centrifugalising. The amount of urine passed daily was normal, and fairly abundant urates were deposited on standing. On November the 29th the patient got very stupid, but not exactly drowsy. The blood-pressure on this date was 90 mm. By December the 1st the œdema had begun to disappear under hot-air baths and saline purgatives, and by December the 9th all casts and blood had disappeared from the urine, only a few epithelial cells from the bladder being seen on centrifugalising. The child was discharged on December the 18th in perfect health.

I believe this child to have had an attack of acute nephritis following but not due to pneumonia, causing œdema and the presence of casts and blood-cells in the urine, but without albuminuria.

What the cause was I do not know, but I do not think it was the pneumococcus, as in such cases I have usually seen severe hæmaturia and abundant organisms in the urine, which was not the case here. There was no sign leading one to suspect intestinal toxæmia, as the motions were regular, not offensive, and appeared normal.

The majority of cases of nephritis with œdema and without albuminuria seem to be the result of scarlet fever, and in fatal cases the kidneys show typical acute nephritis; but in my case there was no history of any acute specific or other cause except perhaps acute pneumonia. The absence of albuminuria has probably led to many such cases being overlooked, in the absence of careful microscopic examination of the urine, and this, too, is rendered difficult and uncertain by the presence as a rule of a large deposit of urates. Henoch in his 'Lectures on Children's Diseases' records several cases, and says that in his opinion even casts may occasionally be absent from the urine.

Ballico in an article on albuminuria and nephritis in infancy, abstracted in the BRITISH JOURNAL OF CHILDREN'S DISEASES, 1906, iii, p. 163, states that out of seventy urines examined there were four which had no trace of albumin and showed renal cells and casts, and in two blood-cells also. These had no œdema nor any symptoms of nephritis whatsoever.

Herbst, in an article on "Latent Nephritis in Children," abstracted in the BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, v, p. 505, reports the examination of the urine of nine children between the ages of 8 and 14 years. Only one had a trace of albumin, and the urine was normal in appearance, quantity, and specific gravity. The sediment contained blood-corpuscles, hyaline, granular, and blood-casts. The clinical symptoms were only headache, pallor, and fatigue, but no œdema or heart complications or retinal changes. In 282 healthy children he found in 43 per cent. more or less the same elements, and so concludes that a few hyaline casts have no pathological significance, and the same with granular casts if in small numbers.

Herringham has reported a case ('Proc. Roy. Soc.,' 1909, ii, Clin. Sect., p. 55) of œdema without albuminuria, which he considered to be toxic, due to the same poison that is responsible for the œdema of nephritis.

It is possible that latent nephritis is much more frequent than is suspected, and as the matter has not previously been brought for discussion before this Section, I thought the case worthy of record, and it will, I hope, provoke some remarks on the subject.

Postscript.—In the subsequent discussion Dr. J. D. Rolleston stated that he had seen a very few cases of nephritis without albuminuria following scarlet fever, though he had seen very many cases of scarlatinal nephritis. In one case the existence of nephritis was verified by post-mortem examination. Dr. Rolleston stated that there had been comparatively little written on the subject in recent literature, whereas in earlier works, such as the classical textbook by Henoch, there was much more notice of it. Jaccoud, in an article on albuminuria ('Nouveau Dictionnaire de Médecine et de Chirurgie,' 1864, i, p. 547), quotes Philippe, of Berlin, who said he had sixty patients affected with scarlatinal dropsy, in none of whose urines did he find albumin.

F. Léonetti, in his interesting thesis entitled "Souvenirs de Captivité : les Épidémies dans les Camps de Prisonniers d'Allemagne" ('Thèses de Paris,' 1914–5, No. 8), gives a description of various epidemics, and among others one of nephritis at the camp of Güstrow. "The English," he said "struck me by the fragility of their kidneys." They had been especially exposed to cold because they had been deprived of their overcoats and body linen. Although the existence of nephritis *a frigore* had been disputed, Léonetti had seen twenty cases among these English with all the symptoms of nephritis, and though in some of them the test-tube was solid with albumin on boiling, in others repeated examinations failed to show any albumin in the urine.

CASE OF DYSPITUITARISM IN A GIRL, AGED 15 YEARS.*

By Sydney Stephenson, C.M.,
Ophthalmic Surgeon to the Queen's Hospital for Children, London.

The girl was brought to the ophthalmic department of the Queen's Hospital for Children on July the 9th, 1914, with the complaint that the sight had been failing for three or four months, and that for one week she had suffered from headaches. Right vision, $\frac{5}{5}$ J.1.; left vision, $\frac{5}{36}$ J.1.; weak atropine drops (1 gr.) were prescribed, to be used to each eye three times a day, and when the girl was examined the following week she was found to have in the right eye +0·5D. cyl., axis 180°, and in the left eye +0·5D. sph. A note was made to the effect that the media were clear.

I first saw the patient on August the 27th, 1914, and found that the sight of the right eye had become reduced from normal to "shadows," while that of the left eye remained as it was on admission some seven weeks before—namely, $\frac{5}{36}$. The sight of the right eye was stated to have failed suddenly two weeks ago. The pupil of that eye had lost its direct response to light. The media were clear. Both optic discs were pale, but the retinal vessels were of normal dimensions. The girl's personal appearance was somewhat peculiar, since she was inclined to stoutness and her eyes seemed rather prominent.

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* The case was shown at the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 28th, 1916.

For closer observation the patient was admitted to the hospital on August the 27th, 1914, and remained until the following October the 24th. She was found to be a bright, intelligent, and good-natured girl, whose every movement appeared to be normal. There was no tremor or alteration in sensation. The facial movements were normal, and there was no nystagmus. The functions of all the cranial nerves, with the exception of the second, were normal. During her stay in hospital there were occasional headaches, but no vomiting or vertigo. Successive weights during the two months' stay in hospital were: 79 lb., 79 lb., 79 lb. 10 oz., 81 lb., 80 lb. 4 oz., 80 lb. 8 oz., 80 lb., and 74 lb. 4 oz. The temperature was usually between 98° F. and 99° F.; but on thirteen occasions during her sojourn in hospital it rose to between 99° F. and 100° F.

An examination of the blood, conducted a few days after admission, gave the following results: Red blood corpuscles, 3,770,000; white blood corpuscles, 6400; hæmoglobin, 65 per cent.; index, 0·86. The differential count was: Neutrophiles, 55; basophiles, 1; eosinophiles, 2; large lymphocytes, 9; small lymphocytes, 29; hyaline, 4; total, 100.

The knee-jerks were brisk; there was slight ankle-clonus. Flexor plantar response. The abdominal reflexes were present; the reflexes of the upper arm were easily elicited. No jaw-jerk. No facial irritability. The Wassermann reaction negative as regards both the blood serum and the cerebro-spinal fluid. No increase of pressure in the cerebro-spinal fluid, which, from other points of view, was normal. The sphenoidal and other sinuses were reported as normal.

The girl was next seen by me on May the 13th, 1915, that is to say, after an interval of almost nine months, when sight remained much as it had been on the date of the last note. The optic discs were pale, with no evidences of antecedent neuritis. The retinal vessels were of good size. The field of vision of the right eye could not be taken, but that of the left eye, estimated for a small white object, was restricted in the temporal region, although tolerably full elsewhere.

Soon after this (June the 17th, 1915) a note was made to the effect that no pubic hair was present, and that the girl had not begun to menstruate. She was placed on thyroid, 1 gr. twice a day. A negative report was received at about this time respecting an X-ray examination of the patient's skull.

September the 9th, 1915: Right vision, perception of light; left vision, $\frac{3}{60}$. Dose of thyroid increased to 4 gr. a day.

October the 7th, 1915: Left vision, $\frac{3}{60}$, No. 20 J.

December the 4th, 1915: The bright and intelligent girl has a peculiar personal appearance, and is something more than merely well nourished. Her eyes convey the idea of prominence, and the left eye turns slightly outward and upward. Although within a few weeks of 15 years of age, no signs of menstruation have yet made their appearance. No headache, vomiting, or vertigo. Pupils 6·5 mm. in diameter. Direct action of the right eye almost lost, while that of the left one is as yet almost intact. A very slow hippus is present. The optic discs are pallid, well defined, and the physiological cups are not filled in or concealed in any way. Retinal vessels of good size. The visual field of the left eye, as tested for a 10 mm. white square, is entirely confined to the nasal half. The fixation point is as yet intact. Right vision, ? perception of light; left vision, $\frac{1}{24}$ (letters) and No. 18 J. (letters).

A report from Dr. Williams, radiographer to the Queen's Hospital, states: "The sella turcica is greatly enlarged, the antero-posterior diameter being 17 mm. There appears also to be some thinning of the clinoid processes."

Comments.—The diagnosis of "dyspituitarism" can now be made with tolerable confidence, seeing that the following points are present: (1) The existence of bilateral simple optic atrophy, otherwise unexplained; (2) loss of the temporal field in the left eye (temporal hemianopsia); (3) X-ray evidence of enlargement of the sella turcica; and (4) the general appearance of the girl. As to treatment, large doses of thyroid have been tried, but apparently without particular benefit. It would appear that nothing short of surgical treatment is likely to do good, a point upon which expressions of opinion are requested. The risk of impending blindness is, in itself, the justification for such a view.

RETROSPECT OF OTOLOGY, 1915.

By Macleod Yearsley, F.R.C.S.,
Senior Surgeon to the Royal Ear Hospital, etc.

The sudden outbreak of the European war has seriously affected the output of otological literature, and the contributions thereto are sparse (even in the prolific United States), and the majority not of great value.

No special addition has been made to our knowledge of the *anatomy and physiology* of the ear, and in *clinical investigation* the only paper is that by Macleod Yearsley on "Hearing Tests in School Children," published in 'School Hygiene,' 1915, vi, 146, in which the inexpert endeavours of Government Offices to introduce a routine method of investigation, regardless of practical politics, is exposed.

As usual, *middle-ear suppuration* claims the attention of most writers, and the papers worth mention as repaying perusal are those of Emerson ('Boston Med. and Surg. Journ.,' clxiii, 616), on "Acute Otitis Media in Infancy and Early Childhood: Avoidable Mistakes in Diagnosis, Prevention, and Treatment," which should be studied by otologists as well as general practitioners; Sawrey ('Med. Journ. of Australia,' i, 286), on "The Causation and Diagnosis of Suppurative Otitis"; Borden ('Ann. of Otology,' xxiv, 1), on "Systemic Infection of Middle Ear Origin in the Exanthemata"; Adam (BRITISH JOURNAL OF CHILDREN'S DISEASES, xii, 40), on "Infection of the Middle Ear with Vincent's Organisms," in which are described three cases—two boys, aged 6 years and 22 months respectively, and one girl, aged 8 years; and Sewell ('Med. Chronicle,' lxi, p. 49), on "Indications for Operative Interference in Cases of Aural Discharge."

The *complications of middle-ear suppuration* are illustrated by Kyle ('Ann. of Otology,' xxiv, 34), with some observations upon the modern mastoid operation; by Mollison ('Practitioner,' xcv, 489) on acute mastoiditis; by Broder ('Med. Record,' lxxxviii, 482) on primary mastoiditis; and by Pike ('Practitioner,' xcv, 501) on permeating mastoiditis.

Intracranial conditions are discussed by Ewing ('Med. Journ. of Australia,' i, 284) in a paper on "Difficulties of Diagnosis of Intracranial Extension of Suppurative Otitis," and one by Shuter (*Ibid.*, 281) dealing with the same subject.

The most noteworthy papers on *disease of the labyrinth* are two—Gordon Berry's case of a boy, aged 15 years, in whom labyrinthitis follows an operation for atresia ('Boston Med. and Surg. Journ.,' clxii, 700), and Weinstein's case of deafness following mumps in a boy, aged 8 years ('Med. Record,' lxxvii, 353).

Some work has been done towards the *prevention of deafness* during the year, the most important being that upon spotted fever; a useful paper on this subject is that by McIntosh and Bullock ('Lancet, ii, 1184), on "The Recognition and Isolation of the Meningococcus in the Nasopharynx of Cerebro-spinal Fever Contacts." Macleod Yearsley ('Practitioner,' xciv, 804) has discussed the preventive treatment of catarrhal deafness, and makes allusions in his paper to prevention in childhood.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, January the 28th, 1916.

The President, DR. R. HUTCHISON, *in the Chair*.

Case of Dyspituitarism in a Girl, aged 15 years.—Dr. J. D. ROLLESTON (for Mr. SYDNEY STEPHENSON) *vide* p. 141.

Two Cases of Hypertrophic Cirrhosis of the Liver.—Dr. T. R. WHIPHAM.—Case 1: A boy, aged 9 years, was brought to hospital on November the 24th, 1915, with a history of jaundice during the previous three weeks. He vomited at the onset of the jaundice, but had no further nausea until just before he was seen. For some time he had been getting thinner and had lost his appetite and spirits. The urine had been dark coloured and the motions light "like putty." There was one younger brother in the family, who is healthy, and between him and the patient the mother had had one miscarriage. When first seen the boy was well nourished and presented a general icterus of moderate severity. There was no irritation of the skin and the pulse was not diminished in frequency. The liver was greatly enlarged, extending to within 1¼ in. from the umbilicus, and was firm and uniform to the touch. There was no enlargement of the spleen or of the lymphatic glands. The thoracic viscera were normal. A blood count showed red corpuscles 4,500,000, white cells 6000 per cubic millimetre; the hæmoglobin value was 100 per cent. The urine contained much bile-pigment, and the bowels were constipated. The Wassermann reaction was negative. Treatment with calomel and salines brought about a gradual diminution in the jaundice, and at the present time no colouration was visible. The liver, however, remained approximately the same size.

Case 2: A boy, aged 6 years, attended hospital on January the 10th, 1916, on account of jaundice of ten days' duration. He was said to have been getting thinner and to have lost his appetite. He had had no pain, but had vomited once on January the 9th. The urine had been of a dark colour, but, according to the mother's definite statement, bile had never been entirely absent from the stools. The patient had one brother who was healthy, and there had been no miscarriages. The boy showed marked icterus of a deep yellow colour, rather more intense than that in Case 1. He had no itching of the skin and the pulse was not slow. The liver was very similar to that of the first case, but was a trifle larger in proportion, the lower edge being felt within ¾ in. from the umbilicus. In this case also there was no enlargement of the spleen nor of the lymphatic glands, nor any abnormality in the thoracic organs. The blood count likewise resembled that in the former case, the red corpuscles numbering 4,500,000 and the leucocytes 10,000 per cubic millimetre, while the hæmoglobin value was also 100 per cent. The urine was deeply pigmented with bile, but the fæces have not been observed. The Wassermann reaction negative. The patient has been treated with calomel, but the deep jaundice still persisted and the liver had not altered in size.

Case of Papillomatous Growths in Old Operation Scar.—Dr. J. L. Bunch.—A boy, aged 13 years, was operated on eight years ago for a fatty tumour on the left side of the chest. Some months after the scar had healed small reddish growths began to appear on and around the scar, and such growths have recurred intermittently ever since. There were now about a dozen of these growths, which were soft, sessile, and red to purplish in tint. Under the microscope they had a definite papillomatous character, with a well-marked cortex. No tubercle bacilli had been found in them, and von Pirquet's reaction was negative. There was nothing abnormal in the lungs.

Multiple Tumours of Molluscum Contagiosum.—Dr. J. L. Bunch.—A girl, aged 13 years, had a number of typical molluscum contagiosum tumours on both arms. One or two had undergone degeneration. They had been present about a month.

Case of Chronic Patchy Dermatitis.—Dr. J. L. Bunch.—A girl, aged 11 months, had a number of scattered erythematous patches on the trunk and thighs. These patches appeared soon after birth, the first one being on the side of the neck, and had gradually increased in numbers. No patch which had once made its appearance disappeared again, but after some weeks or months it developed a yellow tint which persisted. No patch was definitely scaly, but some of the earliest ones showed a slight roughness of the skin, the recent patches being quite smooth.

Double Optic Neuritis.—Dr. C. O. Hawthorne showed a girl, aged 7 years. She enjoyed usual good health until Christmas, when she vomited on two or three occasions in the early morning and before breakfast; also some complaint of headache, but she was never regarded by mother as in any sense seriously ill. As the vomiting was repeated on several occasions, the doctor advised admission to hospital. She was bright and cheerful, and made little or no complaint; double optic neuritis was marked but there was no other evidence of nervous disease, though a degree of alternating convergent squint; vision $\frac{6}{6}$ each eye. Cerebro-spinal fluid negative; Wassermann test (?). No evidence of visceral disease.

Case of Solid Œdema.—Dr. C. O. Hawthorne.—A girl, aged 15 years, six years ago fell and cut her left leg below the knee; the limb became red and inflamed, and she was confined to bed for a month. Two years later the limb was noticed to be swollen, and this condition had persisted, or even increased, to the present date. There was pitting on pressure over the dorsum of the left foot, and the soft tissues of the left leg and of the lower thigh were thickened, but without evidence of dropsy. The left calf had a circumference greater than the right by 2½ in., while 5 in. above the upper border of the patella the left thigh measured 19½ in., and the right 16¼ in. The limbs were of equal length, and skiagrams showed nothing abnormal in the left tibia or fibula.

Cardiac Case for Prognosis.—Dr. Thursfield.—A girl, aged 13 years, had had four attacks of chorea: the first in 1912, the last in May, 1915. She now had her cardiac impulse 1 in. outside the left nipple line, with some dilatation of the right side, and systolic and early diastolic murmurs. The chief feature of the case, however, was the pulse irregularity, which varied considerably, but was, according to the electrocardiogram, due to ectopic contractions of the right ventricle. The cardiac affection did not seem to have checked her growth. She now weighed 7 st. 11 lb. in her clothes, and was unusually muscular and big for her age.

Tumours over Manubrium and in Left Calf.—Dr. Cautley showed a male infant, aged 15 months, whose mother had died twelve months ago from tuberculosis.

Heart showing Infiltration by Large Round-celled Sarcoma probably originating in the Sternal Periosteum.—Dr. E. C. Williams (*vide* p. 114).

Congenital Double Hydro-ureter.—Dr. Eric Pritchard.—A girl, aged 12 years, was admitted to the Queen's Hospital for incontinence of urine and ingravescent drowsiness. She appears to have had good health till within a year of admission, when symptoms of incontinence commenced. Four days before admission pus was discovered in the urine with albuminuria, and the child complained of a sensation of cold down the back.

On admission she was in a comatose condition and breathing was slightly stertorous. There was a large, rounded swelling in the abdomen, which extended to the umbilicus. She had a strong smell of urine, and incontinence was continuous. The temperature was normal, the pulse and respirations regular; the blood tension was 125 mm. Hg. The fundi were normal. The urine contained a large amount of pus, with a large number of staphylococci and a few coli bacilli. The uræmic symptoms gradually increased, and she died four days after admission.

Post mortem both ureters were greatly enlarged, with double hydronephrosis; on being opened they were found to be full of thickly purulent urine. The kidney substance was reduced to a shell, and the ureteral openings of the ureters into the bladder were greatly stenosed. The bladder was enlarged and the walls hypertrophied; the urethral orifice appeared normal.

The interest of the case lay in the fact that the child enjoyed good health until the age of 11 years, that the bladder was hypertrophied and enlarged without apparent cause, and that the infection which finally brought about the end was a staphylococcic one, without giving rise to a temperature.

Nephritis without Albuminuria.—Dr. J. Porter Parkinson (*vide* p. 138).

DERMATOLOGICAL SECTION.

October the 21st, 1915.

Case of Lymphangioma.—Dr. Dudley Corbett.—The patient was a female child, aged 12 months. There was one other child in the family, a boy, aged 4 years, without blemish, nor was there any history which could be connected with the case. The child was perfectly healthy and experienced no inconvenience from the tumour, nor had there been any attacks of inflammation associated with it. The lymphatic glands were not enlarged anywhere. The tumour itself dated from birth, and the parents did not think that it had grown at all. It was situated in the left leg, extending from the middle of the thigh to the ankle, and rendering that limb notably larger than its fellow; even the left thigh above the tumour was thicker than that on the right. At its upper part, over an area the size of the palm of the hand, was a nævoid patch, which faded on pressure. Over it were scattered numerous dark blue venous tufts of varying size. Some showed signs of recent hæmorrhage and some were quite hard to the touch, like an angiokeratoma. Besides these venous tufts were a few transparent vesicles, containing a clear fluid, which flattened on pressure, only to fill up again when the pressure was removed. Similar vesicles were present all over the tumour, some quite clear, and some just tinged with red. In the calf of the leg the tumour was very bulky, and when grasped gave the sensation of a bundle of varices, though this point was not quite so marked as it was when the child first came under treatment. There was no tenderness anywhere.

The mother stated that the little venous tufts frequently bled, and the vesicles also exuded a clear fluid, but there was never any prolonged bleeding nor much leakage from the vesicles. The tumour never varied in size during the day, nor was its fluid content affected by gravity. Clinically the case seemed to be one of lymphangioma circumscriptum associated with hæmangioma. From the literature it appeared unusual to find one of such great bulk.

Large doses of radium were being applied, and as a result the tumour seemed to be much less tense than it was, and the nævoid patch was paler in colour.

Angiokeratoma.—Dr. W. Knowsley Sibley.—The patient was a fairly healthy-looking girl, aged 12 years, who had for many years suffered from chilblains on the hands and feet. Ever since she was three years old nævus-like puncta had been gradually appearing on the fingers and toes. The eruption was stated to have commenced on the outer side of the little fingers and the small toes. Of recent years the lesions had become more prominent, and some on the toes, especially those which had appeared on the adjacent surfaces of the dorsal aspect of some of the toes, had become hard and warty in appearance and feel. At times the lesions were slightly painful with a pricking sensation, and they occasionally bled. They varied in size, from that of a pin's head to that of a small pea, occurring singly and in groups scattered over the dorsal surface of all the fingers, and especially on the toes, and were persistent.

A section of one of the lesions from the right big toe revealed a thickening of the stratum corneum and the stratum Malpighii, with large cavernous spaces filled with blood corpuscles in the rete, together with a dilatation of the papillary and other blood-vessels.

Case of Lichenoid and Nodular Tuberculide.—Dr. H. W. Barber.—The patient was a boy, aged 4¾ years. The condition had already lasted for six months. The child had been fed in infancy on Nestlé's milk and barley-water. The father had died from perforated gastric ulcer, but had previously been healthy. The child's mother and one brother were both healthy. In February, 1915, the patient had measles, followed by bronchitis, and some weeks later the eruption appeared on the hands and knees, and afterwards on the trunk. He had lately had a brassy cough, and the physical signs in his chest indicated pressure on the left bronchus with fibrosis and collapse of the left lung—presumably from caseous bronchial glands. The lesions on the trunk were lichenoid, and those on the hands and knees nodular.

Case of Granulosis rubra nasi.—Dr. A. WINKELRIED WILLIAMS.—The patient, a girl, aged 13 years, had suffered from the condition since early childhood. Her nose was red and the skin wet with sweat. There were hyperidrosis and lumpy swellings (sweat gland abscesses) in the armpits. The hands and feet were cold and moist. The localised hyperidrosis of the cartilaginous parts of the nose was very marked until about two months ago. A few deep-seated papules under the diascope gave the appearance of something between a hydrocystoma and lupus. The patient was now much better, in fact she was getting towards the age when recovery usually took place.

Abstracts from Current Literature.

Otology, Rhinology and Laryngology.

Acute otitis media in infancy and early childhood: avoidable mistakes in diagnosis, prevention, treatment (‘*Boston Med. and Surg. Journ.*, 1915, CLXXIII, *p.* 616).—**W. R. P. Emerson** gives five cases of acute otitis in children of ages ranging from 2 to 2¾ years. He considers the condition the most frequently overlooked affection of infancy and childhood, reasons for which statement are set forth. In none of the five cases were there symptoms of earache. The author concludes that in every case of contagious disease and of affections of the respiratory tract in children, measures should be inaugurated at once to keep the naso-pharynx clear, and so maintain drainage through the Eustachian tube. In such cases the ear drum should be inspected at every visit of the physician to his patient. In cases of otitis media, when the symptoms and the local condition do not improve under treatment, the drum should be incised by the aurist, without waiting for bulging or pus. Every child, after an attack of acute otitis media, should have his epipharynx examined and treated by a specialist trained to recognise the close relation of the naso-pharynx to the ear. [These suggestions may be stigmatised as ancient history, but our experience is that they cannot be too often insisted upon.]

MACLEOD YEARSLEY.

A case of broncho-pneumonia, purulent otitis media and interna, and lepto-meningitis (‘*Edin. Med. Journ.*,’ 1915, II, *p.* 265).—**J. Thomson** and **J. S. Fraser** report this case in a female infant, aged 1 year and 8 months, who was admitted to hospital with symptoms of meningitis which had lasted for six days. Death occurred two days later, or eight days after the onset of the meningitic symptoms. The chief points made out at the post-mortem examination were old hip-joint disease, probably tuberculous in nature, pneumococcal meningitis, and toxic changes in the organs. A detailed account of the microscopic examination of the left ear is given, the principal points regarding which may be summarised as follows: Purulent otitis media, not very advanced, only the inner layer of the tympanic membrane being involved. No sign of involvement of the fibrous layer or of impending rupture of the drum head. On the other hand, the niches of the oval and round windows showed pus, and the membrane closing the round window was especially infiltrated. Labyrinth inflammation also in early stage, *i. e.* serous stage, just passing into purulent. Pus most evident in the basal coil of the cochlea in the region of the round window, whereas the exudate in the vestibule on the inner side of the stapes mainly fibrinous. Pus filling the cochlear opening of the perilymphatic duct; cochlear canal itself collapsed. Hæmorrhage in the narrow spaces surrounding the labyrinth capsule, probably a toxic change. J. ALLAN.

Chronic suppurative otitis media with complications (‘*Edin. Med. Journ.*,’ 1915, II, *p.* 356).—**J. S. Fraser** and **W. R. Logan.**—A girl, aged 13 years, had a foul-smelling discharge from the right ear since an attack of measles some years ago. Six days before admission to hospital she complained of great pain in the right ear, followed by vomiting and retraction of the head. There was no history of rigors. When the patient was admitted the symptoms and signs of purulent lepto-meningitis predominated, and lumbar puncture confirmed this diagnosis. The radical mastoid operation was performed, and a large extra-dural perisinus abscess drained. Within a week the symptoms of lepto-meningitis had almost entirely passed off and the cerebro-spinal fluid had become clear. After the patient had been one week in hospital, when the signs of meningitis were rapidly receding, symptoms suggestive of cerebellar abscess on the diseased side became prominent—*e. g.* the child lay curled up in bed, there was stiffness of neck, the head was supported by the hands, the grasp was feeble on the ipso-lateral side, dysdiadokokinesia was present, along with spontaneous nystagmus to the affected side. There were, in addition, symptoms of an otitic venous infection—evening rise of temperature to 104° F. Suddenly the signs of the venous infection became still more prominent; there was a marked rigor. A second operation performed at this time showed that the lower part of the sigmoid sinus, jugular bulb, and upper part of the internal jugular vein were thrombosed. Immediately after the venous infection had been dealt with, the signs of a right-sided cerebellar abscess again asserted themselves—extraordinary nystagmus, pointing error, vomiting, etc. At this time also symptoms of gangrene of the lung supervened, evidently the result of a septic infarct. The child began to spit up extremely offensive brownish-red material, which was always more profuse when she turned on her left side to have the wound behind the right ear dressed. Functional examination of the right labyrinth at this stage showed that it was still active, as the patient was able to hear with the noise apparatus occupying the attention of the sound ear, while the vestibular apparatus on the diseased side reacted to the caloric test. As the signs of cerebellar abscess continued, the dura covering the right lateral lobe of the cerebellum was incised, and a stinking abscess evacuated. From this point onward the patient made a slow recovery. She was seen two months after her discharge, and was then looking fat and well. She had gained enormously in weight. She could walk well, and had no difficulty in balancing. J. ALLAN.

Meningeal syndrome of otitic origin (‘*Rev. méd. del Uruguay*,’ 1915, XVIII, p. 399).—**P. E. Duprat** records twenty-two cases in children, all of whom were infants under 2 years, except three aged from 6 to 10 years. Acute otitis in infancy may be fairly frequently latent, *i. e.* without any local signs, and only be revealed by symptoms of repercussion, a frequent example of which is a meningeal syndrome. The normal character of the cerebro-spinal fluid in such cases, as well as the success of puncture of the tympanum, allows one to exclude meningitis and to recognise the existence of a toxic reaction originating in the middle ear. To produce this meningeal syndrome it is not necessary for the ear infection to have reached the suppurative stage. On the contrary, the stage of congestion preceding suppuration is more favourable for the development of meningism. From the exclusively meningeal aspect the prognosis is favourable, but this prognosis is independent of the gravity of the otitis, which, as a general rule, is also favourable. One should always think of the possibility of latent acute otitis, so as to avoid serious consequences, since what was at first only meningism may develop into a true meningitis. In exceptional cases latent otitis with similar symptoms may develop in older children. J. D. Rolleston.

Primary mastoiditis ('*Med. Record,*' 1915, lxxxviii, *p.* 482).—**C. B. Broder** describes two cases of primary mastoiditis, one in a child, aged 3 months, the other in one aged 7 years. In the first, a mastoid abscess developed after a sharp blow on the left side of the head, with complete absence of local evidence of middle-ear disease. In the second case, with a history of frequent attacks of tonsillitis and chorea, there was a general destructive mastoiditis, with necrosis involving the tip, zygomatic and perisinus cells. The infection probably originated in the tonsil and passed to the mastoid without involving the Eustachian tube and middle-ear, which were cut off from the tympanum by inflammatory closure of the aditus.

Macleod Yearsley.

Severely impaired audition in childhood ('*Med. Record,*' 1915, lxxxviii, *p.* 1089).—**L. M. Hubby** discusses deaf-mutism, but without any original observations. His expressed opinions are, however, sound, and he urges the avoidance of intermarriage of the congenitally deaf.

Macleod Yearsley.

The indications for operative interference in cases of aural discharge ('*Med. Chronicle,*' 1915, lxi, *p.* 49).—**D. L. Sewell** thus summarises the signs and symptoms which singly or severally call for interference: (1) A discharge which persists in spite of treatment. (2) A discharge which is fœtid, blood-stained or contains cholesteatomatous material. (3) Recurring polypi. (4) Carious bone. (5) Fistulæ. (6) Pain. (7) Tenderness. (8) Headache. (9) Vertigo with or without nystagmus. (10) Increase of deafness with diminished bone conduction. (11) Facial paralysis.

Macleod Yearsley.

How to blow the nose ('*Med. Record,*' 1915, lxxxviii, *p.* 1007).—**E. H. Griffin** complains that in thirty years' experience he has not seen twenty-five persons who knew how to blow their noses properly unless they had been previously taught. Failure to clean the nose thoroughly is responsible for over 75 per cent. of catarrh cases. He suggests that to blow the nose properly it is best to look at it as a double shot-gun: the nose as the muzzle, the chest as the air receiver, the mucus in the nose as bullets and charge. "A deep inspiration to fill the chest with air, then one finger is placed upon the ala of one nostril to obstruct the passage. With one violent expiration the air from the chest is forced through the open chamber of the nose and the offending discharge is caught by the handkerchief. This manœuvre is repeated on the opposite side." This is Griffin's advice; in some cases it may be dangerous. Macleod Yearsley.

Milk-borne septic sore throat—a new health problem ('*Med. Record,*' 1915, lxxxviii, *p.* 945).—**Hermann Biggs** discusses these outbreaks. Previous to the Boston epidemic in 1911, no outbreaks had been reported in the United States. They were, however, not uncommon in Great Britain, ten epidemics occurring from 1880 to 1905. The author discusses the causation and bacteriology in detail, and states that it is quite clear that the only means of prevention lies in universal Pasteurisation of the milk supply for drinking purposes. The milk may be infected primarily in the cow, or secondarily from someone handling the milk. It is also possible that mastitis may be produced in the cow by transmission to the udder from a human being. Of course, also, the disease is transmissible from patient to patient. Macleod Yearsley.

Tonsils and chronic cervical adenitis ('*Lancet,*' 1915, ii, *p.* 752).—**H. Gardiner** carried out an investigation with the idea of determining what, if any, evidence there was bacteriologically of the infectivity of the tonsils in cases of chronic cervical adenitis in which there was no apparent and obvious source of infection. His conclusions are as follows: (1) In the majority of cases (80 per cent.) of chronic cervical adenitis where no obvious source of infection is present, the tonsils are infected. (2) The size of the tonsils makes no difference to their infectivity except that the small fibrotic variety is likely to be more dangerous than the large. (3) The number of cases in which turbercle bacilli are present is relatively small, but is larger than in simple cases of enlarged tonsils. (4) The frequent presence of other organisms than the tubercle bacillus in these cases suggests that a larger proportion of the so-called chronic tuberculous glands are in reality chronic septic glands. (5) The organisms are present in the deepest parts of the gland, and are therefore only removed by operations involving complete enucleation. J. Allan.

Tonsillar abscess in diphtheria ('*Zeitschr. f. Hyg.,*' 1915, lxxx, *p.* 163). —**A. V. Knack.**—This is usually a very rare complication. Reiche met with only one example among 8000 cases of diphtheria. Knack records eight cases—*i. e.* 1·6 per cent.—among 500 diphtheria patients. Three were children aged from 13 to 15, and the rest adults. In two cases the abscess was concurrent with diphtheria, and in the rest there was an interval between the two varying from three to twelve days. Four of the patients had already had repeated attacks of tonsillitis. In six of the cases examined bacteriologically, there was a mixed infection with streptococci. All recovered. Six had slight albuminuria and two palatal palsy.
J. D. Rolleston.

The tonsillar manifestations in the early diagnosis of measles ('*Am. Journ. Dis. Child.,*' 1915, x, *p.* 274).—**C. Herrman,** after referring to his recent paper on measles (*vide* British Journal of Children's Diseases, 1915, xii, *p.* 246), states that he has now notes on 88 cases of measles in an early stage. In 80 cases (90 per cent.) Koplik's spots were seen, and in 35 cases (40 per cent.) the tonsillar spots were present. These vary in number, size, shape, and colour. They may be only 2 or 3, or 20 or 30. Their size varies from a point to a pin's head; they may be round, or very small regular, or larger irregular, streaks. The colour varies from a bluish-grey to white. They are seen only in a very early stage of the disease, often when the child has no objective symptom except a slight rise of temperature, and are visible one or two, or occasionally three, days. They are more frequently seen in enlarged or succulent tonsils.

J. D. Rolleston.

The Connellan-King diplococci in affections of the throat, with special reference to rheumatism (*'Med. Record,'* 1915, lxxxviii, *p.* 958).—**J. J. King**, in a very interesting paper, points out that (1) Every case of septic arthritis, commonly called rheumatism, is caused by a focus of infection somewhere in the body. It may be in tonsils, ear, accessory sinuses, gastro-enteric tract, genito-urinary tract, or in the teeth. (2) The most frequent focus is found in the mouth, and especially in the tonsil. (3) A very simple tonsillitis may be followed by complications so serious as to endanger life. (4) The infection may be latent, and produce serious trouble weeks or months later at a distance from its original site. (5) The danger of general sepsis after tonsillectomy should be eliminated by autogenous vaccines before operation. (6) Complications are caused by chemical toxins rather than by a bacteriæmia. (7) The blood changes seem to be in the Connellan-King diplococci infections a simple anæmia, and in a few cases a slight increase in the eosinophiles 4–6 per cent. (8) Autogenons vaccines give highly satisfactory results. Macleod Yearsley.

Some clinical manifestations of focal infections (*'Journ. Amer. Med. Assoc.,'* 1915, lxv, *p.* 1911).—**S. Oftedal** reports the following cases to illustrate the importance of searching for focal infections. Case 1: A boy, aged 12 years, had been suffering for several years with chorea, which, in spite of the usual treatment, rest in bed, Fowler's solution, etc., had been growing more and more severe. The eyes were continually rolling from side to side, the head was always changing position, and other muscles of the body were jerking constantly. General nutrition was poor; there was a slight mitral lesion, and a rather indefinite history of sore throat. Tonsils were of the embedded variety and apparently not enlarged. Examination was otherwise negative. The tonsils were extirpated, and the left was found to contain pus from which a streptococcus was isolated. The boy was put to bed, Fowler's solution being prescribed in increasing doses. In five weeks twitchings had all ceased, and patient seemed to have made a perfect recovery.—Case 2: A girl, aged 13 years, had been subject to attacks of tonsillitis for several years. About a year ago one of these attacks was associated with rheumatic pains and swelling of the joints, which, however, subsided, being followed by several other severer attacks at intervals until about seven weeks ago, when she entered the hospital. At that time the child was greatly emaciated, and had the typical appearance and symptoms of a severe endocarditis. The tonsils appeared to be innocent, being of apparently normal size and colour. For several weeks the temperature ranged between 102° and 104° F., salicylates and other medication being given without any apparent effect. A bacteriological examination was then made of the tonsils. From the crypts of the left tonsil was obtained a slight amount of pus, which yielded a pure culture of a green-producing streptococcus under anærobic cultivation. It was decided that the tonsils must be removed, in spite of the poor condition of the patient. Under local anæsthesia this was successfully accomplished. Both tonsils were of the size of a large hazelnut; the right was apparently normal in structure, but the left contained considerable quantities of pus. The left tonsil was emulsified under aseptic precautions, and the emulsion suspended in salt solution, injected into three rabbits, varying quantities being injected intravenously. The first animal died of anaphylactic shock shortly after injection; the second died about eight hours after injection with every symptom of an overwhelming septicæmia, streptococci being isolated from the blood in great numbers. The third rabbit had been given a very small dose, and showed no noticeable symptoms until about two weeks later, when an inflammation of one of the joints developed. The following few days the animal grew gradually worse, and was chloroformed. There was considerable fluid in the pleural, peritoneal, and pericardial cavities, the latter containing a flaky deposit. The heart was dilated and flabby, and the mitral valve showed retraction and a small hæmorrhage. From the blood and serous fluids was isolated the *Streptococcus viridans.* Meanwhile, the day following extirpation of the tonsils, the patient complained of a severe pain over the right kidney. The urine, which had hitherto been normal, showed the findings of an acute hæmorrhagic nephritis. On cultivation a pure culture (anærobic) of a green-producing streptococcus was obtained, corresponding in every way to that obtained from the left tonsil. A vaccine was prepared and given at intervals of six days. After two injections the urine had again become normal, while the temperature gradually diminished.—Case 3: A girl, aged 18 years, complained of severe headache and pain in the left knee and over the heart. The patient had had attacks of pain over the heart previously, also headaches for some time, but had not before been troubled with "rheumatism." The knee was found to be slightly swollen and tender; there was a murmur over the apex; the pupils were considerably dilated. Temperature 101° F. Examinations of the teeth, tonsils, and nose were negative. She was referred to a specialist for examination of the sinuses, and these were found to be apparently normal. A daily inspection of the throat was made, with no results, until one day, when the patient said she felt somewhat better, a considerable quantity of greenish, thick pus was found to be discharging down the posterior pharyngeal wall. Cultures were made and a streptococcus was isolated, from which a vaccine was prepared. The patient began to improve after the first injection of the vaccine, and after five doses had been given she had apparently made a complete recovery. T. R. WHIPHAM.

The proper position of tonsillectomy in pædiatrics ('*Arch. of Ped.*,' 1915, XXXII, *p.* 817).—**Sanford Blum** discusses the *pros* and *cons* of conserving the tonsils and concludes that tonsillectomy is an excellent surgical procedure in certain cases and should be the operation of choice in malignant disease of the tonsils (a self-evident fact, one would think). It may be indicated in recurrent peritonsillar abscess. It should not be performed in infants. It should only in exceptional cases be performed before the eighth year. The author states that he has "proved by animal experiments that the tonsils are excretory organs for the cervical glands."

MACLEOD YEARSLEY.

Tonsillectomy as a therapeutic measure in the treatment of chorea and endocarditis ('*Boston Med. and Surg. Journ.*,' 1915, CLXXIII, *p.* 356).—**J. H. Young** gives an analysis of fifty-four cases of rheumatism in which tonsillectomy was performed. His results do not give much support to the prevailing idea of the value of this measure in preventing recrudescences of the infection. In twenty-one cases of chorea there was a recurrence of the complaint after tonsillectomy in no fewer than twelve instances.

The value of the author's conclusions would have been much increased were we told exactly the type of operation performed and the degree of the infection of the tonsils as determined by their examination after removal.

REGINALD MILLER.

A case of prolonged intubation cured by introduction of a tube coated with alum ('*Rev. méd. de la Suisse rom.*,' 1915, xxxv, *p.* 454).—**H. Mallet**, a boy, aged 4 years, who had had faucial diphtheria twenty-one months previously, was admitted to hospital with pneumococcal laryngitis. He was intubated nine times in the course of 27½ days, during which he was without the tube for forty-two hours in all. Cure ultimately resulted from cauterising the subglottic ulceration by the introduction of a tube coated with a thin paste composed of alum, starch, water, and glycerine.

J. D. ROLLESTON.

Can the speech present a sign of congenital syphilis? ('*Boston Med. and Surg. Journ.*,' 1915, clxxiii, *p.* 619).—**W. B. Swift** records three cases in children, two of whom were aged 10 years, and one whose age is not given, to show "that there is a voice sign in congenital syphilis which manifests itself in a harsh, rasping, monotonous, low-pitched voice that is only slightly, and usually not at all, amenable to treatment." Swift suggests that it is due to a maldevelopment of the vocal cords comparable to the maldevelopment of the upper central incisors and of the scapulæ characteristic of congenital syphilis. J. D. ROLLESTON.

Paralysis of the recurrent laryngeal nerve resulting from mitral stenosis ('*Journ. Amer. Med. Assoc.*,' 1916, lxvi, *p.* 333).—**J. Rosenthal.**—Paralysis of the recurrent laryngeal nerve can be caused in mitral stenosis by direct pressure of the left auricle, or indirectly through the pressure of the pulmonary artery, or the dilatation of the right ventricle may cause displacement of the heart with consequent dragging on the ligamentum arteriosum and strangulation of the nerve. Two cases are reported, one of which was a boy, aged 4½ years, who six weeks previously had rheumatic fever. Since then he had had cardiac symptoms and for one month had been hoarse. The heart was greatly enlarged and showed signs of mitral stenosis, and there was abductor paralysis of the left vocal cord. Death occurred ten months later. No necropsy was obtained.

T. R. WHIPHAM.

Tracheitis sicca ('*Lancet*,' 1915, ii, *p.* 1351).—**H. Lambert Lack**, at a meeting of the Royal Society of Medicine, section of laryngology, showed a case of tracheitis sicca. The patient, a boy aged 7 years, had suffered for five weeks from stridor and dyspnœa, for which no cause could be found. When examined the lumen of the trachea was almost filled by a mass of large black crusts. The larynx was natural, the voice was good, and there were no crusts in the pharynx or nose, although the latter was rather wide with a tendency to dryness. Treatment by steam inhalations had no effect; marked cyanosis and dyspnœa continued. Small doses of potassium iodide were then given, and the throat was sprayed with Siegle's steam spray. Great improvement resulted, the stridor and dyspnœa disappeared, although crusts were still present. The cause of the rare condition was quite obscure. J. ALLAN.

Foreign body in bronchus ('*Edin. Med. Journ.*,' 1915, ii, *p.* 417).—**J. S. Fraser** reports the case of a boy, aged 4 years, who four months before swallowed a pearl-headed pin. A radiograph located the pin in the right bronchus, its head being downwards. It was removed with difficulty by direct bronchoscopy. Three days later tracheotomy had to be done because of urgent asphyxia, and during convalescence the child developed dulness over the right apex, probably due to collapse of the lung. The author remarks that the larynx of a child is very small, and appears to be specially liable to œdema and spasm. He thinks it would have been better in this case if tracheotomy had been performed in the first place. This would have permitted the insertion of a larger bronchoscopy tube, and would also have brought the site of the foreign body considerably nearer the operator. The size of the tube to be used in bronchoscopy is regulated by the width of the glottis, and not by the size of the bronchus. If a tube can pass through the glottis it can enter the main bronchus. J. Allan.

School Hygiene.

The nutrition of the school-child ('*Journn. State Med.*,' 1915, xxiii, *pp.* 329 and 353).—**G. A. Brown.**—The average daily energy value of all the diets studied gave 3163 calories. The average composition of all the diets was 110 grm. of protein, 83 grm. of fat, and 473 grm. of carbohydrates, The principal food-stuffs used were bread, potatoes, milk, sugar, beef and vegetables. The cheaper vegetable foods, such as oatmeal, peas, beans, etc., were used in relatively small amounts. Of all the families whose weekly income was over 20*s.*, 28·5 per cent. had a diet the energy value of which was less than the minimum of 3000 calories. Of the families whose weekly income was under 20*s.* or irregular, 82·5 per cent. had a diet of which the energy value was less than 3000 calories. Not one of the families in which the wage was regular and below 20*s.* per week had a diet the energy value of which reached the minimum of 3000 calories. The author has endeavoured to bring out the following points: (1) That the condition of the mother, respecting nutrition and general health during pregnancy, has a far-reaching influence on the nutrition of the child; (2) that antenatal causes of defective nutrition may act for an indefinite period after the birth of the child; (3) that the industrial occupation of the mother has a detrimental effect on the nutrition of the children; (4) that housing is related to the state of nutrition of the child. The children from the largest houses are, on the average, heavier and taller than their less fortunate fellows. The poorest children suffer most in nutrition and growth; (5) that the smaller the house the larger is the proportion of persons per room. (*a*) The proportion of children in one- and two-roomed houses exceeds the proportion of adults. (*b*) In the three-roomed houses the proportion of children to adults per room is equal. (*c*) And in houses of four or more apartments the proportion of adults exceeds that of the children per room; (6) that the average wage among the 770 families for which reliable returns were obtainable was 20*s.* 9*d.* per week, or 3*s.* 4*d.* per head per week to an average family of six persons. This works out at approximately 5*d.* per head per day after deducting rent; (7) that while the labouring classes with a regular income distinctly over 20*s.* per week generally managed to secure a diet approaching the proper standard for active life, those with a smaller income, as well as those with an irregular income, failed to get a supply of food for the proper development of the body or for the maintenance of the capacity for active work.

J. Allan.

The importance of the medical supervision of older children ('*New York State Journ. Med.*,' 1915, xv, *p.* 67).—**E. J. Wynkoop** thinks too much stress cannot be laid upon this important matter, for nothing has such a bearing on the future welfare of the children as their proper supervision and inspection, and the early and prompt correction of those processes which tend toward mental dulness and physical enfeeblement. The author takes that period in the child's life between the ages of ten and fourteen, or, in other words, those years leading up to puberty, and briefly refers to some of the mental and physical anomalies that may arise at this period of life. The advantages to be gained by the medical supervision of older children are many, but the special points that seem to be uppermost are these: First, with the advent of the medical inspection and examination of school-children it is going to be possible to get in closer contact and keep under medical supervision a certain proportion of these children. Second, it is going to enable us to keep a closer observation of the growing boys and girls and will bring home to the parents as never before a realisation of the importance of making it a business to keep their children well. Third, by starting a closer relationship between the children and their physicians, it will give the physician many opportunities to advise parents in regard to the needs of their children. J. ALLAN.

School medical inspection and the British Army ('*Lancet*,' 1915, II, *p.* 332).—**G. Finch** and **C. W. Hutt** discuss the causes of rejection to the British Army, and try to show how school medical inspection may help to reduce the numbers of such rejections in the future. They consider most of the causes of rejection as falling into two main groups, each of which accounts for about one-third of the total rejections from all causes. Group 1: Conditions generally associated with inferior physique, comprising under chest measurement, under weight and height, diseases of the heart other than valvular diseases, impaired constitution and debility, flat foot, and malformations of the chest and spine. It is certain that a great reduction in the above defects would result from more thorough medical supervision and treatment of public elementary school-children, combined with arrangements for suitable exercise and adequate feeding. Group 2: The second large group of defects, causing one-third of the total rejections, consists chiefly of surgical diseases which are in great part amenable to treatment, especially if dealt with during school-life. Under this head the authors include loss and decay of many teeth, defects of vision and external eye diseases, diseases of the middle ear and deafness, hernia, and diseases of joints. The authors think it is impossible for the School Medical Service to cover all the ground, and they hope for a Public Health Medical Service, which would link itself with, and in part supersede, the existing public health and other organisations which already administer the inspection of midwives, the notification of births, the baby clinics and schools for mothers, school medical inspection, and the work of the factory surgeon. Medical officers of such a Public Health Medical Service would be offered work of considerable variety and interest, with a correspondingly increased power to improve the national physique. J. ALLAN.

Responsibility and opportunity of the teacher in preventing tuberculosis ('*Boston Med. and Surg. Journ.*,' 1915, CLXXIII, *p.* 239).—**T. F. Harrington** emphasises the difficulty of diagnosis in children. There were 2131 contacts among children of school age, in only eleven of whom was the diagnosis of tuberculosis confirmed. Five per cent. of all children are below par, and it is among these that the preventive work must be done. Systematic teaching in physiology and hygiene is required, but owing to the bad training of the teachers this rarely amounts to much. The heating and ventilating arrangements of schools should be fixed by law, open-air classes should be established. Physicians and teachers should receive proper training.

CHRISTOPHER ROLLESTON.

The aural school-clinique (' *Glasg. Med. Journ.*,' 1916, I, *p.* 101).—**J. K. Love** considers the advent of the aural school-clinique is perhaps the most important development which has taken place in the treatment of ear disease for the last quarter of a century, because, apart from deaf-mutism and tubercular disease, there is little ear disease amongst children till the beginning of the school period. Nearly all the middle-ear disease of later life, both suppurative and non-suppurative, commences during the earlier years of the school period. The author describes the arrangements in Glasgow for dealing with such cases, and advances the following conclusions as the result of four years' experience: (1) The treatment of middle-ear suppuration in school-children at aural school-cliniques is very satisfactory; (2) the results will be better when the post-nasal space can be attended to in all cases of middle-ear suppuration; (3) syphilitic deafness is not common in school-children; (4) as a minor but still important result of treatment, it should be noted that the teachers of the schools have offered spontaneous testimony to the improvement in educational progress which has occurred.

J. ALLAN.

Reviews.

TUBERCULOSIS: A GENERAL ACCOUNT OF THE DISEASE, ITS FORMS, TREATMENT, AND PREVENTION. By A. J. JEX-BLAKE, M.D., F.R.C.P. London: G. Bell & Sons, Ltd., 1915. Pp. 231. Price 2s. 6d. net.

A SUCCINCT but very complete account of the chief facts appertaining to tuberculosis will be found in this book, which is written in plain language, free as far as possible from technicalities, so as to be intelligible to those who have no special education in medical or scientific matters. Its purpose, we presume, is to serve as a kind of text-book for lecturers and others connected with anti-tuberculosis campaigns, and, viewed from such a standpoint, the book is an undoubted success. Dr. Jex-Blake gives all the information that a layman is likely to require, and here and there perhaps just a little more, which will only serve to arouse the interest of the intelligent reader without going to the length of boring him by being too abstruse.

The author begins with an historical survey of the disease from the earliest times, and then deals with the various forms of tubercle bacilli and the pathological lesions produced by them. Predisposition and immunity to tuberculosis and the paths of infection are judicially discussed, and the statistical side of the question is lightly touched upon. Next follows a description of tubercle as it affects the lungs and other parts, and here we must make just one criticism. Dr. Jex-Blake includes erythema nodosum among the tuberculides; but in spite of the doctrine of Landouzy and the observations of Chauffard and Troisier, Marfan, Sézary, and others, we doubt if the association between the disease in question and tuberculosis is generally accepted in this country. Diagnosis is only dealt with in a general way, the details of clinical examination being obviously beyond the scope of the work. The chief points as regards prognosis are given, but more stress is laid on the general treatment of the disease. Here the writer gives some sound information as to the principles upon which consumptive patients are treated and the management of such cases in sanatoria, though we fear that the lay reader will be somewhat bewildered by the account of the different tuberculins and the more or less mystic letters which are usually employed to designate them. The concluding chapter is on the prevention of tuberculosis, and will appeal perhaps most of all to the general public. In it Dr. Jex-Blake sets forth very clearly the means which should be employed to prevent the spread of the disease, and enters a plea for the co-ordination of the various authorities which have to deal with it.

The book is written in an admirable style, and one well suited to its purpose. We can thoroughly recommend it to all who are on the look out for a plain, straightforward account of the "great white scourge."

T. R. W.

Education in Victoria: Report of the Minister of Public Instruction for the year 1913–14. Pp. 53 and 127. Illustrated with photographs. 1915. By authority: A. J. Mullett, Melbourne.

This is a long Parliamentary Report, with still longer additional appendices, which deals chiefly with the administrative side of the question of education in the province of Victoria. Appendix O is a report on medical inspection and kindred subjects, and from it we learn (p. 106) that in the High Schools a considerable number of girls at the age of puberty, who are undoubtedly over-working and having insufficient sleep, are the subjects of enlarged thyroids, often to a very definite degree.

To those interested in education and the statistics of the health of a large number of school children the Report will be useful. T. R. W.

Staffordshire County Council: Annual Report of the School Medical Officer for 1914. Pp. 126. 1915. Stafford: J. & C. Mort, Ltd.

This little volume, in addition to the usual report on the methods of medical inspection of a large number of school children, gives some interesting information on school diseases needing special care, and a number of commentaries on various physical defects. Among the latter, special mention must be made of a valuable paper (for it really amounts to that) on "Defects of Speech and the Principles of Treatment," by Dr. J. Priestley. "Mouth-Breathing," by Dr. Ruby Thomson, and "Seborrhœa," by Dr. Agnes H. Nicoll, are also important contributions.

Dr. Priestley, the Senior Medical Inspector, is responsible for the Report this year, and is to be congratulated on the attractive form in which the results of the useful work done by him and his assistants are presented.

T. R. W.

RUTLAND COUNTY COUNCIL EDUCATION COMMITTEE: ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR THE YEAR 1914. By CHRISTOPHER ROLLESTON, M.A , M.D.Oxon., M.R.C.P.Lond. Pp. 47. Leicester: W. Thornley & Son.

THIS is a clear and comprehensive report on the schools and school children in the County of Rutland, and reflects considerable credit on the assiduity of Dr. C. Rolleston. The author is of opinion that enlarged tonsils and adenoids account for nearly 30 per cent. of the cases of malnutrition examined, and are frequent causes of deficient hearing, otorrhœa, and serious mental retardation. One case only of congenital syphilis was met with, and it is interesting to note that the writer states that he has only seen one other case of this disease in Rutland. Towards the end Dr. Rolleston does not hesitate to make some scathing remarks as to the hygienic conditions found in some of the schools. T. R. W.

MOTHERCRAFT. Parts I and II. Pp. 322 and 165. London: The National League for Physical Education and Improvement. 1916. Price 4*s.* 6*d.* net.

THIS is a very useful series of lectures delivered to health-visitors and others under the auspices of the National Association for the Prevention of Infant Mortality. They comprise nearly everything with regard to infant welfare that such workers require to know, and are written in a plain, straightforward manner which carries conviction and impresses the essential points upon the reader. The lectures were given by well-known men and women and have authority from the fact that the writers have made a special study of their subjects. Thus, to mention only a few of the authors, Dr. Amand Routh writes on the health of the unborn babe, and Miss M. Fitzgerald on the visiting of homes. The feeding of infants is dealt with by Dr. F. Langmead, Dr. E. Pritchard, and Dr. H. C. Cameron; simple ailments by Dr. R. Carter and Dr. D. Forsyth; eye diseases by Mr. S. Stephenson; ear troubles by Mr. Macleod Yearsley; infectious diseases by Dr. J. D. Rolleston; monstrosities by Dr. A. Keith.

In Part II the lectures comprise an advanced course, some of the subjects being the Development in Utero (Mrs. F. Willey), Dietetics (Miss E. Mecredy), Infectious Diseases (Dr. H. Cuff), the Organisation of Schools for Mothers (Miss E. V. Eckhard).

Some examination questions and answers are also given in an Appendix.

The book is eminently suited for its purpose, and we can thoroughly recommend it to all lay workers. T. R. W.

ECONOMY IN WAR-TIME. By MRS. EUSTACE MILES. Methuen & Co. Price 1s. net.

THIS little book contains 160 recipes for vegetarian dishes and several model menus, also suggestions for invalid and children's diets. Mrs. Miles wisely does not disparage the use of meat, only its abuse. For the sake of variety as well as of economy this manual will be welcomed by the mistress of the middle-class home. L. A. F.

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THE
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Original Articles.

FAINTING ATTACKS IN CHILDREN.

By Robert Hutchison, M.D., F.R.C.P.,
Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street.

In hospital out-patient practice children are often brought with the complaint that they suffer from "faints" or "fainting attacks." The following are brief notes of some cases of this sort:

(1) Girl, aged 4½ years. Had her first "faint" when two years of age, but no recurrence until within the last few months, when she has had two more. She "goes white" and "doesn't know you" and would fall down unless supported; a cold sweat breaks out on the forehead; she is not sick. The whole attack lasts about ten minutes. All the attacks have occurred in the afternoon and some time after a meal.

She has otherwise always been a healthy girl and has not suffered from indigestion or constipation. On examination she appeared perfectly healthy in every respect.

(2) Boy, aged 8 years. For some months past "comes over faint," turns white and has to lie down, but is not insensible; is not sick, but often has a headache after the attack. The whole attack lasts some minutes. His general health has been fair, but he is "always tired" and is backward with his lessons.

To physical examination he appeared rosy and well-nourished and the heart perfectly healthy. He is perhaps rather mentally defective.

(3) Girl, aged 5½ years. When two weeks old had a "collapse" lasting some hours and has had these on and off since, but more frequently of late. The attacks now usually occur before breakfast, but she may have as many as three in one day. She "goes pale," "can't stand," and sometimes retches. The whole attack lasts from half to three-quarters of an hour.

A nervous, rather poorly-nourished, dyspeptic child. No anæmia and no signs of organic disease.

(4) Girl, aged 8½ years. During the last twelve months is subject to "faints," especially before breakfast, but also on standing for any length of time. In the attack her "lips go white" and she has to lie down. It passes off in a few minutes.

A thin, nervous, excitable child, but not anæmic. The heart quite healthy.

(5) Girl, aged 7½ years. For two weeks past has tended to "faint" when getting ready for school in the morning. She "flushes and then goes white," and has to lie down. In a quarter of an hour the attack has passed of. Physical examination entirely negative.

(6) Girl, aged 10 years. For two or three months has been subject to "fainting attacks," especially when dressing in the morning. She goes "right off" and is "quite white." May remain in this condition for about half an hour. Her general health is poor; she has a bad appetite and is subject to headaches and constipation.

A poorly-nourished, ill-developed child; no anæmia; heart normal.

(7) Boy, aged 12 years. Has had "fainting attacks" at irregular intervals for the last six years, but they are getting more frequent. Feels "bad" when the attack is coming on, looks "white and drawn," "not really insensible," and can answer if spoken to. The attack usually passes off in less than five minutes. His health otherwise is very good, but he seems "lacking in energy."

A healthy-looking, well-nourished boy, with no signs of organic disease.

(8) Girl, aged 5 years. "Faints in the morning" for the last three months, usually when at breakfast. She "goes very white" for a few minutes and then it passes off. She sleeps badly and is worried about her lessons.

(9) Boy, aged 6 years. Six months ago had scarlatina. When he returned to school began to have "faints," which have recurred frequently since. They usually occur about midday, just before his dinner. He "goes pale, and dark under the eyes," and if sitting at table may fall forwards. He comes round again in a few minutes.

A rather pale, thin boy, not anæmic ; heart normal.

(10) Girl, aged 11 years. Subject to "faints" for some months, but they are getting more frequent. They usually occur in the early morning or at school ; goes "ghastly" in the attack and may vomit, but is not insensible, and it passes off gradually in a few minutes.

A tall, thin girl, not anæmic. Heart shows a musical systolic murmur at the apex, but is otherwise normal. Other organs healthy

It will be noticed that both sexes suffer from the attacks, but girls rather more frequently than boys. Occasionally they date from quite early life, but usually they do not appear until about the fifth year or later, and are commonest after the school age. In general features the attacks are very similar in all cases. The child is observed to "go white"; he may fall down, but does not lose consciousness entirely, although in some cases he is dazed, or even only semi-conscious. Occasionally retching or even vomiting occurs, but in no case was urine voided involuntarily. The attack lasts for a period varying from a few minutes up to half an hour or even longer, and passes off gradually. Sometimes it is followed by headache. The commonest time for the attacks to occur appears to be in the morning, often before breakfast or whilst the child is getting ready for school. Many of the children are nervous and dyspeptic, but in a considerable number the general health is quite good and the appearance of the child flourishing. There appears to be no relation between the attacks and the occurrence of any previous disease.

On only one occasion have I been fortunate enough to witness an attack. The patient in that case was a boy aged 10 years, who had been subject to faints for some time. When standing up to be examined he suddenly became pale and giddy, the pulse very slow and feeble, and the heart sounds toneless. He was quite conscious, but somewhat confused. On laying him down he gradually revived, and then flushed a little.

I have not been able to discover any cause for the susceptibility to these attacks, but over-strain at school certainly seems to play a part in some cases. Dyspepsia and nervousness are so common amongst the hospital class of children that their association with the attacks may easily be a coincidence.

The diagnosis is not difficult, minor epilepsy being the only condition which might be mistaken for them. In "faints," however, consciousness is not completely lost, and their duration is usually much longer than that of an epileptic seizure.

As to the pathogeny of the attacks, it is difficult to speak with certainty. Mothers, and sometimes doctors, are apt to ascribe them to " heart weakness," and are often much alarmed in consequence. There is no reason to suppose, however, that the heart is primarily at fault.

In only one of the above cases (No. 10), for example, was anything abnormal detected on examination of the heart, and in that instance there was no reason to suppose that the systolic murmur present was any real indication of cardiac inefficiency. Further, one does not find that children with valvular or congenital heart disease are in any way specially liable to attacks of faintness.

It seems much more probable that the condition is primarily nervous in origin and due, perhaps, to a temporary sympathetic paralysis leading to uncontrolled action of the autonomic system with vaso-dilatation in the splanchnic area and inhibition of the heart. Whether liability to the attacks may be the consequence of a defective suprarenal secretion resulting in a lowered sympathetic " tone " is an interesting subject of speculation.

As regards treatment, I have always found that removal from school, change of air to the seaside, and the use of strychnine as a tonic along with attention to the digestive organs, speedily results in a disappearance of the attacks.

THE SEQUEL TO A CASE OF EPIDEMIC CATARRHAL JAUNDICE.

By John A. Procter, L.S.A., and Gordon Ward, M.D.,
Lydd, Kent.

This case seems to us to call for record because (1) there has been much epidemic jaundice among our troops abroad, and, if the supposition made in this case is correct, similar sequels are to be expected in the future; (2) an extraordinary attack of meningism preceded death—at a time when meningococcal meningitis was epidemic in the country; (3) many diagnoses, not one of them correct, were made by the six or seven medical men who saw the case; and (4) the diagnosis of splenic anæmia (passing into the final stage of Banti's disease) seemed at one time to be justified by the clinical findings as much as by the results of blood examination.

The case will first be described and then the above points dealt with briefly and in turn.

The patient was a boy, aged 12½ years, when he first came under treatment in his final illness.

Family history.—The mother and father are alive and well; there is no suggestion of syphilis in either of them or in their family history. There is no tuberculosis. They have several healthy children, of whom the patient was the eldest. They have not lost any other children. Five years ago three of the children had jaundice, and there were perhaps a dozen cases altogether in the village. The family have been for many years under the care of one of us (J. A. P.), so that any unusual factor in the family history would have become known.

Previous history.—Until the attack of jaundice above mentioned he had enjoyed good health, although some of his relatives think he was not so strong as the other children. He was always a big boy for his age. His more immediate history showed repeated epistaxis for the last six months, and swelling of feet and stomach for the last three weeks. Until then he had been at work in the fields, having been excused school to work as a farm-hand during the war.

History of final illness.—He was first seen by one of us (J. A. P.), who found œdema and ascites and a spleen extending to the umbilicus. The liver was not enlarged. Diarrhœa was present. There was no albuminuria. He was then seen by Mr. Frank Coke, of Ashford, and a provisional diagnosis of sarcoma made. It was noted that the gums were congested, and bled readily, and that no enlarged glands could be felt. As the diagnosis was not felt to be beyond suspicion, Mr. Coke took him into Ashford Hospital with a view to exploratory operation. The boy improved so much that this was not done. He was sent home. About a month later he commenced to go down-hill again. There were slight ascites and diarrhœa, but there was no œdema nor bleeding from gums. The spleen was noted as reaching two inches below the ribs. It is noted that the liver was not enlarged, but there is no note that it was small. He looked pale, but had no yellowish tinge. Four months after this his general condition was the same, but the gums were again bleeding, and there was œdema. Epistaxis was occasional all through the illness. His blood by this time had become practically normal. Tuberculosis, "tabes mesenterica," seemed a not unlikely diagnosis in view of the continued diarrhœa and ascites. It was thought that the splenomegaly might be symptomatic of some interference with the portal circulation, a view supported by the bleeding from the nose and gums. The recovery of the blood condition while the general condition remained had seemed to rule out splenic anæmia.

A few weeks later the patient had an attack of catarrhal pharyngitis, which was very prevalent at the time, and seemed to make a good recovery from this.

A week after this he suddenly became acutely ill. When seen he was quite unconscious, had marked head retraction, and seemed on the point of death.

Two days later the head retraction had vanished ; he was almost quite clear mentally, but had a few purpuric areas on the flanks. He had no jaundice, but much ascites.

He died two days later, having rapidly developed jaundice and very marked dyspnœa.

It should be remarked that the patient lived in a very isolated position and in an old low-roofed and doubtfully water-tight house. Frequent visits were therefore impossible, and the means of scientific investigation limited.

An autopsy was made thirty-six hours after death. The following points are the only ones which require notice :

General emaciation ; sacral bedsore ; general bile-staining.

Spinal cord normal ; fluid clear. Brain normal except for congestion. No hæmorrhages. Membranes strip readily ; normal on section ; not bile-stained.

Inspissated pus in crypts of right tonsil. Dilated veins at œsophagogastric junction. Small areas of hæmorrhage in stomach. Nothing else abnormal from mouth to large intestine.

Liver shows marked " hob-nail " cirrhosis, small and retracted ; weight 28 oz. On section areas of liver tissue bulge forward from the surrounding fibrous trabeculæ. It is calculated that there is at least twice as much fibrous as liver tissue.

Spleen large, weight 29 oz. ; normal on section. A few adhesions. No thrombosis of splenic or portal vessels.

Left lung completely collapsed in a cavity full of recent lymph and exudation (microscopically very few organisms could be seen). On section lung is brown and fleshy and airless. Right lung normal ; not œdematous.

A few enlarged mesenteric and cervical glands ; no other glands enlarged.

The case a sequel to epidemic jaundice.—We are not in a position to search the literature on the subject, so that we cannot say if cirrhosis has been recorded in this connection before. In this case it seems the only possible ætiological factor.

The attack of meningism.—We use the term "meningism" because symptoms of meningitis occurred for which no physical basis was found after death. The symptoms seemed to follow an attack of influenza, and were exceedingly severe. The head retraction was extreme and mental disturbance in keeping. There were also a few purpuric spots. The symptoms seemed to quite justify a diagnosis of cerebro-spinal meningitis, either meningococcal or—in view of other features of the case—tuberculous. Yet not so much as œdema of the meninges was found, there was no dilatation of ventricles, nor any hæmorrhage, nor the least abnormality beyond slight congestion, which was properly attributed to other causes. Cerebro-spinal meningitis had been present at a farm a few miles off, but otherwise there was none in the immediate vicinity.

The difficulty in diagnosis.—It is difficult to believe that the liver was anything but much reduced in size during the whole of his final illness, but this fact was not detected until the day before death. This does not reflect favourably on ourselves, nor on the several other medical men who saw the case, but we would plead in extenuation the presence of ascites and the difficulty of making a proper examination, *e. g.* it was not possible to stand anywhere near erect in the room in which the patient slept.

The most favoured diagnoses in this case were at various times splenic anæmia, tuberculous peritonitis, and meningitis and meningococcal meningitis. Sarcoma, sporadic acholuric jaundice *sine* jaundice, and portal thrombosis were also suggested. It is a remarkable fact that the patient was at various times in a condition which warranted these varying diagnoses.

The blood condition is set out below:

	Date.				
	June 16, 1915.	Aug. 6, 1915.	Jan. 12, 1916.	Feb. 25, 1916.	Feb. 28, 1916.
Red cells	3,190,000	3,820,000	5,570,000	—	—
Hæmoglobin	49 %	—	82 %	—	70 %
White cells	5300	3800	10,000	30,000	8000
Polymorphs	55·6 %	50·8 %	53·0 %	92·2 %	91·8 %
Eosinophiles	0·4 %	0·2 %	10·0 %	—	0·2 %
Mast cells	2·6 %	0·4 %	0·6 %	—	—
Transitionals	6·4 %	7·8 %	2·4 %	1·0 %	2·0 %
Small mononuclears	33·2 %	38·8 %	32·6 %	4·8 %	4·6 %
Large mononuclears	1·6 %	1·6 %	1·2 %	1·8 %	0·4 %
Myelocytes	0·2 %	3·4 %	0·2 %	0·2 %	1·0 %
Normoblasts	—	—	—	240	128

On all occasions, except the third, considerable anisocytosis and polychromasia were noted. The first two estimations were in keeping with a diagnosis of splenic anæmia. The boy's age was against this diagnosis, but the epistaxis and bleeding from the gums were rather in favour than otherwise. When the blood became practically normal, in spite of the lack of improvement in the patient's general condition, this diagnosis seemed to be untenable. On the other hand, such variations in the blood, more or less independent of the general condition, can occur in acholuric jaundice. and jaundice is now known not to be an essential part of this syndrome. The presence of nucleated red cells in the last two counts, together with marked qualitative changes and the supervention of jaundice, were held to make the probability of acholuric jaundice still more probable. The stools were not discoloured. We are of the opinion that the jaundice when it did occur was quite possibly hæmolytic, and not due to the cirrhosis, although the possibility of the chest condition having been a determining factor in the disturbance of hepatic function is not lost sight of.

The leucocytosis we assume to have been due to the chest condition. The presence of a certain number of nucleated red cells is by no means unknown in acute heart failure, but is unusual.

The case might even now be considered an example of Banti's disease, but in our opinion the post-mortem appearances, as much as the clinical history, negative this view.

TWO CASES OF INTESTINAL OBSTRUCTION IN CHILDREN.

By T. Jason Wood, M.D.,
Surgeon, Bradford Royal Infirmary.

Intestinal obstruction in children, apart from intussusception, is decidedly rare; the two following cases would seem worthy of record on this account.

Tuberculous Tumour of Mesentery and Intestine.

Case 1.—I was asked to see a male child, aged 12 months, in April of last year. He was a particularly fine, well-nourished baby, and had enjoyed good health until the present illness. The patient had been ill some four or five days; the first symptoms were associated with the respiratory organs (cough, etc.), but for two days before I saw him there had been vomiting and difficulty in evacuating the bowels.

Examination showed a well-nourished child above the average in size. Temperature 103° F. The respirations were increased in frequency and there was a slight cough from time to time. Sonorous rhonchi were heard on auscultation, but there were no signs of pneumonia.

The abdomen was considerably distended; slight general tenderness was noted, but there was no local swelling or tenderness to be made out. Rectal examination revealed nothing abnormal. There had been no passage of blood by the rectum, but small quantities of fæces with mucus had escaped from time to time. The child evidently had intermittent abdominal pain at fairly short intervals. I did not feel at all clear as to the diagnosis, and, as the consultation was held at midnight, I suggested that the child should be moved to a nursing home early in the morning for operation if it was thought desirable.

When I saw the child at the nursing home he seemed much better than on the previous night, the abdominal distension had diminished and the temperature was lower. It was possible now to make out a tumour in the abdomen in the region of the umbilicus, which was more or less cylindrical in shape and gave one the impression of an intussusception. I made this diagnosis and advised operation. Operation was delayed until the following day owing to the reluctance of the parents to give consent, as they thought the child was so much better.

The abdomen was opened to the right of the middle line and the tumour exposed; it was found to consist of a dense mass, apparently tuberculous in nature, infiltrating some three or four inches of the small intestine and its mesentery. It was fixed and could not be delivered through the wound. The intestine above it was distended as compared with that below, which was partly collapsed. No further tuberculous nodules were seen in the peritoneal cavity. It did not seem practicable to excise the whole diseased area, so a lateral anastomosis was effected between loops of intestine above and below the obstruction. The child made a rapid recovery from the operation and the bowels acted without trouble.

Cyst of the Mesentery causing Volvulus.

Case 2.—A female child, aged 3 years. She was said to have always been delicate, was late in walking, and complained frequently of a "dragging" pain in the abdomen, which caused her to bend forward when walking. The history was given me that about two months before I saw her she had had an attack of abdominal pain and vomiting, with symptoms of obstruction: her medical attendant had felt a tumour in the abdomen. She recovered from this attack and had been going about as usual. When I saw her early in January she had been ill a week with abdominal pain. She was said to have had no evacuation of the bowels for five days, and had vomited every day. The vomit was intestinal in character. The child was desperately ill, the eyes were sunken and the pulse small. There was no rise of temperature. The abdomen was distended and peristaltic movements were visible. No tumour could be felt owing to the distension. Rectal examination was negative.

As operation offered the only prospect of recovery, though this was very poor, I ordered her immediate removal to the infirmary and I operated a few hours later. On opening the abdomen a tumour about the size and shape of a duck's egg was at once found. It was a cyst in the mesentery of the lower part of the ileum. On puncturing the cyst yellow fluid containing abundant shining crystals of cholesterin escaped. A condition of volvulus had been set up by the weight of the cyst, and the bowel at the point of pressure was gangrenous and had begun to leak. The gangrenous bowel was brought out of the abdomen and resected, metal drainage tubes being tied into the open ends of the intestine, and fixed to the skin, and the operation concluded as rapidly as possible. The patient only survived the operation about twelve hours, but this result was to be expected owing to her desperate condition.

The question arises as to what would have been the best way of dealing with the cyst had the case been seen in the absence of obstruction. It would probably not have been possible to dissect it out without damaging the blood supply of the intestine, and if this were the case resection of the affected bowel would seem to be necessary. A possible alternative to resection might be to fix the cyst to the abdominal wall and drain it, but the obvious objection to this course would be that the intestine would be fixed at one point and obstruction might be caused by such fixation.

The question of diagnosis in these two cases is of interest, but I venture to think only from an academic point of view: in each case there were obstructive symptoms with the presence of a tumour. The most natural diagnosis to make in each case was probably intussusception, though some of the classical symptoms were absent; but the practical point was that operation was the only treatment. It is to be greatly regretted that the second child was allowed to go so long in a state of obstruction, as the probability is that her life would have been saved by an early operation.

Royal Society of Medicine.

NEUROLOGICAL SECTION.

November the 25th, 1915.

Paralysis of the Sympathetic (Birth Injury) with Heterochromia Iridis.—Mr. M. S. Mayou.—The patient was a boy, aged 8 years. He had been delivered by forceps with great difficulty. It was noticed not long after birth that there was a slight droop in the right eyelid. The right pupil was smaller than the left, but reacted to light. The right iris was more bluish in colour as compared with the left, which contained more brown pigment. The right pupil did not dilate so fully as the left, and was not dilated by cocaine, whereas the left dilated fully. There seemed to be some diminution of lacrymal secretion, and sweating on the right side of the head, together with a slight enophthalmos. The fundi were normal. There was no difference in pigmentation on the two sides. Vision $\frac{6}{6}$ in both eyes.

This was the third of its kind that had come under the speaker's care. All had followed prolonged labour with the use of instruments. The alteration in the colour of the iris was probably due to the fact that the paralysis had taken place in very early life, before the development of the pigment in the stroma of the iris which took place soon after birth. The fact that there was no alteration in the retinal pigment further pointed to the condition being due to a failure in the development of the pigment in the iris stroma.

Intermittent Tonic Spasm affecting chiefly the Lower Extremities, progressive in character, following Measles.—Dr. T. Grainger Stewart.—The patient was a girl, aged 8 years. She had always been under-sized and excitable and rather shaky. She walked at the age of 10 months, talked at 2 years, and was rather backward at school. The family history was good.

Six months ago she had had measles and pneumonia. She was able to get up and walk after the attack, but her mother noticed that her feet were inclined to turn inwards. She had been steadily getting worse since, and had lost the power of walking alone. She could only walk on her toes, and had to be assisted. During the past three months her speech had become affected, and the right arm was becoming stiff, the child tending to hold the arm extended at the elbow with the wrist flexed and the whole arm pronated (tip position). No history of fits or incontinence.

Present state: Intelligence good. Cranial nerves: Face asymmetrical; tongue deviated to left. Motor system: Arms—no wasting; fair power;

at times considerable tonic stiffness in the right limb and not in the hand, and at times there is involuntary movement of the limb but not of the hand; co-ordination fair. Legs—no wasting; calves hypertrophied; can move legs at hips and knees. Generally the legs are in a state of spasm, the feet in position of talipes equinus, the knees straight, and the hips straight. When there is no spasm the legs can be freely moved at all joints. At night spasm varies, sometimes there is a continuance of rhythmic spasms; co-ordination fair. Gait: Walks on the tips of her toes, and needs help. Sensory system: No defect. Reflexes: Tendon-jerks—arms brisk, knee very brisk, ankle brisk when spasm is absent; otherwise not obtained. Superficial reflexes: Abdominal, present and equal; plantar, flexor.

Philadelphia Pediatric Society.

JOINT MEETING OF THE NEW ENGLAND PEDIATRIC SOCIETY, THE PEDIATRIC SECTION OF THE NEW YORK ACADEMY OF MEDICINE, AND THE PHILADELPHIA PEDIATRIC SOCIETY.

November the 9th, 1915.

Acidosis in Children.—Dr. A. E. Taylor.—The elimination in a child whose diet was known before, during, and after the attacks of vomiting was studied. The urine was also examined forty-eight hours before the onset of an attack. The quantitative determination of the acid elimination ascertained by estimation of the different ketones showed that for two days before the attack there was no acidosis: acidosis did not appear till three days after the onset of vomiting. This seemed to indicate that acetonuria was the direct result of the starvation and had direct connection with the intermittent vomiting. He concluded that there were two types of acidosis, one connected with intermittent vomiting and one dependent upon the withdrawal of food and having nothing to do with the intermittent vomiting.

Metabolism Studies before and after Splenectomy in Congenital Hæmolytic Icterus.—Drs. R. M. Pearce, O. H. P. Pepper and S. Goldschmidt showed a boy, aged 5½ years, with a history of congenital hæmolytic icterus, complicated by left hemiparesis, aphasia, and otitis media. There was a tendency to localised œdema and obstinate constipation. Two other children in the family had been slightly jaundiced after birth. Comparison of observations made before and after splenectomy showed the following results:

(1) A slight positive nitrogen balance before splenectomy was followed by an increased retention eight days after the operation.

(2) The output of uric acid showed a decrease of 47 per cent. after the operation.

(3) In the period directly after the operation a change in the partition of creatinin and creatin elimination occurred; the total creatinin, however, showed but slight change.

(4) Other urinary nitrogen constituents showed no variation from normal, and no change was found in the hydrogen ion concentration.

(5) The utilisation of nitrogen was good at all times.

(6) Fat metabolism was normal.

(7) There was a large loss of iron through the fæces before splenectomy, followed by a decided decrease (40 per cent.) after the operation.

(8) The excretion of urobilinogen and urobilin in the fæces was markedly diminished after splenectomy, the amount excreted after the operation being about one-ninth that excreted before splenectomy.

Electro-cardiographic Tracings in Children.—Dr. E. B. KRUMBHAAR stated that in studying diseased hearts in young children he had found that there were no electro-cardiographic tracings of the normal heart in infancy and childhood, and that hence they had nothing with which to compare their findings in abnormal conditions of the heart in children. He had taken tracings of the fœtal heart just before and just after the cord was cut. These showed that the heart acted much better just before the cord was cut than for a time afterwards. At birth there was a preponderance of the right ventricular sounds, and this persisted up to the sixth or eighth week.

Lobar Pneumonia in Childhood: Roentgen Ray findings and an Explanation of Bronchial Signs.—Dr. HOWARD H. MASON, of New York City, said that during the past two years at the Presbyterian Hospital of New York all the cases of lobar pneumonia in children had been X-rayed at least once, and some had had repeated roëntgenograms. From the study of thirty-seven complicated cases of lobar pneumonia Dr. Mason drew the following conclusions. They all showed definite shadows, which were always quite dense and uniform, and usually definitely outlined.

The shadow was always so placed that it touched the pleura at some point.

The early shadows were triangular in shape, with their bases on the pleura and their apices separated from the region of the root by normal lung.

In their later development, the shadows extended in size and became uniform from the periphery to the root of the lung. When the shadow involved this entire stretch, bronchial voice and breathing were present, but not otherwise. It is believed that the inference is justified that the dimensions of the shadows correspond to the extension of consolidation.

The following conclusions were drawn:

(1) The consolidation of lobar pneumonia in children begins in that portion of the lung which lies just beneath the pleura.

(2) A central pneumonia in the strict sense never occurs. Silent consolidations are subpleural consolidations, and are separated from the hilum by normal lung.

(3) Bronchial breath and voice sounds are dependent upon the presence of a medium of comparatively uniform density from the site of their origin (the trachea and large bronchi) to the point where the ear or stethoscope is applied. These conditions are fulfilled when the consolidated area extends from just beneath the ear to the region of the hilum.

Dr. LEON T. LEWALD, of New York, exhibited a number of lantern slides that were confirmatory of Dr. Mason's. One case of very early pneumonia showed the practical application of Dr. Mason's work. The first slides shown illustrated the bronchial tree after injection through the bronchoscope; these had been made with the assistance of Dr. H. D. Lynah and showed that there was normally a dense shadow about the hilus on each side, and this had led to many misinterpretations of radiographs and to the diagnosis of tuberculosis when in reality there was nothing abnormal in the region of the hilus. Another slide showed a roëntgenogram of a child who was taken ill suddenly and complained of pain in the right lower quadrant of the abdomen. There were other physical signs suggestive of appendicitis, but there were very few suggestive of pneumonia. Indeed, it was impossible to tell from the physical signs whether one was dealing with a pneumonia or an appendicitis. The radiograph showed an area of consolidation in the right lung, and the diagnosis of pneumonia was made. On the following day a definite pneumonia could be made out and the child went on to crisis and recovery. This case demonstrated the utility of radiography, for otherwise the child would have been subjected to an altogether unnecessary operation. The next slide shown emphasised the necessity of radiographing a child in the presence of conditions that were not readily recognised. The subject of this picture was suffering from symptoms which were thought to indicate the necessity for a rib resection. No X-ray examination was asked for and the operation was performed. The child received no relief and later was radiographed, and a foreign body—an upholstery tack—was located in the right bronchus. Upon careful inquiry it was found that this tack had been lodged there for two years. Dr. Nathan Green removed this tack through the bronchoscope by means of an electromagnet. The last slide exhibited showed a wedge-shaped shadow which might easily have been mistaken for an encysted pleuritic effusion, but it resolved of itself as was disclosed by confirmatory radiographs; this also showed how a mistake might have been made and an unnecessary operation performed.

Tuberculosis in Infancy.—Dr. Charles Hunter Dunn said that in many articles the conclusions drawn were not supported by the final proof afforded by a post-mortem examination. The importance of tuberculosis as a cause of death in the first two years of life was shown by the fact that in a series of sixty-two successive autopsies in the Infants' Hospital, Boston, tuberculosis was found in twenty-five, and was considered the direct cause of death in twenty-three cases. In general, the reports of post-mortem findings showed a greater frequency of involvement of the peribronchial and mediastinal lymphnodes than of the mesenteric. Possibly the tubercle bacillus could enter the body of the infant without a lesion at the portal of entry, but this was still an open question. In Dr. Dunn's series of autopsies the lungs were cut up into the smallest fragments in search for the primary lesion, which was actually found at the portal of entry in twenty-two of the twenty-five post-mortems. The primary lesion was found in the lungs in twenty cases and in the intestines in two cases, which suggested that in Boston at least the most frequent mode of infection was by the inhalation of the tubercle bacillus from a human source, but that the infection through the ingestion of the bovine bacillus in contaminated milk might occur. The primary lesion in the lung was quite easily recognisable. In most cases it was a circular area varying in size from that of a pea to that of a hazel nut. The centre was caseous, but usually of a greyer colour than the yellowish-white caseation seen in the secondary lesions. In some there was calcification. Around the periphery of some of the smaller lesions were numerous miliary tubercles suggesting direct extension. The favourite situations for the primary lesion in the lung were at the apex and near the hilus. The lesion which was found in the intestine in two cases and considered primary was a tuberculous ulceration, and while there was nothing about the appearance of these ulcerations differing from secondary ulcerations, they were considered primary because in them the mesenteric lymphnodes *only* were tuberculous and they were the only cases in which tuberculosis of the mesenteric lymphnodes was found without tuberculosis of the bronchial lymphnodes.

The bronchial lymphnodes were found tuberculous in the twenty cases having a primary lesion in the lung, and in three cases in which no primary lesion was found. Tuberculous ulceration of the intestinal mucous membrane was found in seven cases besides the two in which this lesion was considered primary. In all these cases the ulcerations were multiple. There was no case showing tuberculosis of the mesenteric lymphnodes without an intestinal lesion.

Other secondary lesions.—Chronic tuberculosis of the lymphnodes was found in every case. A more or less generalised miliary tuberculosis of a tuberculous meningitis was found in twenty-three cases. In two cases were chronic lesions found only. Tuberculous peritonitis was found in two cases. Solitary tubercle of the brain was found in one case.

In five cases animal inoculations were made to determine whether the infection was of the human or of the bovine type of bacillus. The bovine was found in one case and the human in four cases.

In this series of cases the diagnosis of the tuberculous nature of the disease was made during life in twenty-three out of twenty-five cases. There were three important points besides the existence of such definite manifestations as tuberculous meningitis or tuberculous peritonitis on which the diagnosis of tuberculosis in infancy was based: (1) The finding of physical signs suggesting tuberculosis in the chest; (2) the evidence given by the tuberculin reaction; (3) the evidence by Roëntgen ray examination of the chest. In this series of cases the continuous von Pirquet reaction was employed, with the result that it was positive in six cases and negative in twelve cases, and in the other seven cases was not done. It must be remembered that many of these cases were acutely ill, and that the reaction was observed very shortly before death when resistance to infection was probably at a minimum. On the whole, Dr. Dunn believed that the value of the cutaneous tuberculin reaction in infancy was not so great as many writers would lead us to suppose. A negative reaction seemed to be a frequent finding in any stage of the disease and gave no evidence at all. A positive reaction in infancy meant tuberculosis.

Roëntgen ray examination of the chest was made in thirteen cases in the series, and was positive in every case.

The Practical Value of the Guinea-pig Test for the Virulence of Diphtheria Bacilli (based upon 1054 virulence tests).—Drs. J. A. Kolmer, S. S. Woody, and E. L. Moshage.—The morphological, biological, and tinctorial qualities of diphtheria bacilli were so distinctive that with comparatively little experience they were readily detected in properly made cultures, and if diphtheria bacilli were to be found on mucous membranes only in diphtheria and disappeared in a reasonable length of time after the clinical evidences of infection had disappeared, nothing would be simpler or more satisfactory than the bacteriological diagnosis of the majority of these infections.

Following an attack of diphtheria the bacilli might persist for long periods of time on the mucous membranes, even though the patient was in all respects restored to health. Most physicians had encountered these cases in their private and hospital practice, when prolonged, expensive, and tiresome quarantine was necessary because of the possible danger of transmitting virulent bacilli to others, until repeated cultures showed the patient to be, temporarily at least, free of diphtheria bacilli.

It was now known that these "carrier" cases, both the convalescent and the person who had never had clinical diphtheria, might carry either virulent and disease-producing bacilli or non-virulent bacilli; in not a few instances both virulent and non-virulent forms were present on the same mucous membrane. In practice it would be simplicity itself to prolong the quarantine of all convalescents until repeated cultures showed the absence of diphtheria bacilli, and likewise to quarantine all healthy "carriers" who had been in contact with a person with clinical diphtheria. The procedures, however, might bring great hardship to a person or family by reason of prolonged isolation and detention; the attending physician might regard lengthy quarantine as a reflection upon his ability and a reversal of his opinion regarding the condition of his patient, and he might in this manner suffer in professional reputation.

It was readily understood, therefore, that some practical and reasonably sure means of differentiating virulent from non-virulent diphtheria bacilli was highly desirable. The test should be one that was easily applied, *i. e.* sufficiently delicate to detect the potential harmfulness of bacilli with low-grade virulence, and it should give the result as quickly as possible.

Before any test could be accepted as sufficiently safe in practical work to regard a "carrier" as free of danger to himself and others on its evidence, several important questions must be answered with reasonable positiveness. (1) Could bacilli that were without disease-producing powers according to these tests, resume virulence and induce disease? (2) Might not bacilli of low pathogenicity produce an infection in a second individual of low resistance while causing no apparent harm to the carrier? (3) Might not virulent bacilli gradually lose virulence and later resume full pathogenic powers under conditions over which they had no control?

There was reason to believe that in some instances the prolonged number of positive cultures following diphtheria were due to the presence of harmless diphtheria-like bacilli of "carriers" that had no connection with the attack of clinical diphtheria. They were present before the attack of diphtheria and were likely to remain for an indefinite time afterwards. At first they might be overgrown by the disease-producing bacilli or overlooked in cultures, but as the latter disappeared the non-pathogens became prominent again and yielded a formidable line of positive cultures.

It was clearly apparent, therefore, that some means of differentiating between pathogenic and non-pathogenic diphtheria bacilli must be available if the diagnosis and control of diphtheria was to be based upon bacteriological examination.

The animal inoculation test remained as the only means now known for determining the virulence of a culture of diphtheria bacilli. To be reliable and satisfactory as a practical measure an animal inoculation test must fulfil certain fundamental requirements.

Focal œdema and even the slightest evidence of toxæmia in the test animal with absence of these signs in the control animal indicated virulence, even though the animal did not succumb in the four-day period of observation.

The classification of Westbrook, Wilson, and McDaniel was used.

The results of 1054 tests conducted after this method showed that the granular types of diphtheria bacilli were virulent in 70 per cent. of the cultures from the throat, nose, and ear: barred bacilli were found of equal virulence as the granular types.

The long solid bacilli were found virulent in about 42 per cent. Cultures of short solid bacilli were uniformly non-virulent. In the Philadelphia

Hospital for Contagious Diseases in all cases where the virulence test was negative the patient was considered non-infectious and fit for release from quarantine. The number of return cases had become practically negligible.

Abstracts from Current Literature.

Diseases of Nutrition.

The lipolytic power of the blood serum of infants in disorders of nutrition ('*Riv. di clin. pediat.*,' 1915, xiii, p. 613).—**E. Palmegiani** performed five series of experiments on (1) 8 healthy children, (2) 24 suffering from disorders of nutrition, (3) 22 with other diseases but healthy intestines, (4) 6 with secondary diarrhœa, (5) 4 with eczema. The conclusions she arrived at were that the blood serum even at birth shows a marked lipolytic power of almost equal intensity in healthy infants, in those who are ill but have regular or constipated stools, and in those with secondary diarrhœa. In the few infants affected with eczema there was no difference from the normal, but a general conclusion must not be drawn from so few cases. In children with disorders of nutrition causing serious wasting, the lipolytic power was slightly below the average. The authoress refrains from drawing a general conclusion from this diminution, but as the difference was decided in comparison with the other series of cases examined, inclines to the belief that it must be considered a pathological phenomenon inherent in such diseases, and may be of importance in the genesis of grave disturbances of metabolism. VINCENT DICKINSON.

The acetone content of the organs in children dying from diseases of nutrition ('*Riv. di clin. pediat.*,' 1915, xiii, *p.* 332).—**G. B. Allaria** from his researches found there was not much difference in the amount of acetone in the different organs of children dying of serious disorders of nutrition in comparison with those of children dying of other affections. He therefore concludes that there is no abnormal accumulation in the organism of the infant dying from this cause, in spite of the marked loss of flesh, and especially the striking destruction of fatty tissue, and also in spite of the fact that infants in this morbid condition are in want of carbohydrates, which are the most active anti-acetogenic substances.

VINCENT DICKINSON.

The ætiology of rickets ('*Lancet*,' 1915, i, *p.* 956).—**L. Findlay** reviews various theories regarding the causation of rickets, and presents a statistical study of the home conditions of 400 to 500 rachitic children. The points investigated were: (1) The length of time the child was breast-fed; (2) the order of the child in the family; (3) the condition of the bowels previous to the onset of the trouble; (4) the amount of air-space in the house allowed to the child; (5) the number of stairs up the house is situated; (6) whether or not the child has been taken much out of doors. His main conclusions are that dietary plays no part in causation, but that defective air-space and lack of fresh air are important factors. In his opinion, the two factors—confinement and deficient fresh air—act by making the child more lethargic and less inclined to exercise itself, although it is quite possible that deficient oxygenation of the blood itself helps towards the production of the special rachitic metabolic error. The results which the author has obtained in the treatment of the disease with massage, passive movement, and electricity are, he thinks, strongly confirmatory of the view that deficient exercise engenders the condition. So far as his experience goes no variety of dietetic or medicinal treatment brings about the same rapid and complete cure. The children are encouraged to walk and yet he has not seen any bad effects follow such practice. J. ALLAN.

Late rickets (*'Le Nourrisson,'* 1914, II, *p.* 257).—**A. B. Marfan** gives a detailed account of the pathology and symptoms of ordinary rickets. Ordinary prolonged rickets is defined as beginning before the age of two years and continuing after four years. The epiphyses remain large. The rickety rosary persists and the fontanelle remains open. Kyphosis and scoliosis are very apt to develop in these cases. Skiagrams show irregular thickening of the epiphyseal cartilages, a hollowing out of the extremity of the diaphysis, a greater transparency than normal of the osseous tissue in the zones of growth, and smaller and less opaque centres of ossification in the epiphyses and in the short bones. The evolution of the disease may continue up till 11 years of age. True late rickets, on the other hand, may begin between the ages of 8 and 18 years. The bony changes resemble those of ordinary rickets, but the skull is usually spared. Pains in the lower limbs are frequent and severe, and paresis is common. A case is described in detail where the disease first appeared at the age of 16 after many years of invalidism from gastro-intestinal disturbances. The tuberculin and Wassermann tests were not performed, nor was a satisfactory section of the bony tissues obtained. The bone marrow, instead of being fatty, consisted in some parts solely of blood and lymph cells. and in others of fibroid tissue. The skiagrams resembled those of ordinary rickets. The epiphyseal cartilages of the radius and ulna were preserved. The epiphyses of the same bones and of the carpus were very incompletely and irregularly calcified. The sesamoid bones of the thumb had disappeared. Hutinel's form of osteo-muscular dystrophy with dwarfism presents the ordinary rachitic deformities, except that the face, skull and teeth are not affected. Paraplegia accompanied by amyotrophy, and without changes in the reflexes or electrical reactions, is always present. The subjects of this variety of rickets are dwarfs, often adipose, and show arrested genital development. Several members of the same family are affected. The relations of osteomalacia and tardy generalised rickets are then discussed. Osteomalacia consists of generalised bone decalcification, while rickets affects one particular part of the bone, namely, the epiphysis. Further, osteomalacia does not enlarge the epiphysis and spares the ribs. Pain, paresis and deformity are far more marked in osteomalacia. Osteomalacia is fatal, rickets is curable. No satisfactory accounts of infantile osteomalacia have yet been published. Tardy rickets with non-symmetrical deformity, *e. g.* scoliosis of young girls, genu valgum and flat foot, usually arises in persons who have had the slight infantile form, and the anatomical features are similar. Marfan made sections from a case of scoliosis in a young girl and considers that the changes found were typical of rickets. Lordosis, with which albuminuria is often associated, obliquity and convergence of the internal borders of the scapula, swelling of the inner extremity of the clavicle with subluxation of the sterno-clavicular articulation, and curving inwards and forwards of the inferior extremity of the radius producing difficulty in wrist extension, are among the less common forms of tardy rickets. The last-mentioned is more frequent among girls, and is sometimes hereditary and familial. Tardy rickets is often associated with physical and intellectual torpor, with hyperplasia of lymphoid organs, and of the palatine and pharyngeal tonsils, and atony of the smooth and striated muscular systems, giving rise among other troubles to cyanosis of the extremities, headache, and intermittent albuminuria The extremities are cold and of a violet red colour. The headache varies in position, occurs at all hours, and sometimes interferes with work. Marfan considers tardy rickets is due to chronic infections, such as hereditary syphilis and tubercle. It may arise after febrile diseases, *e. g.* scarlet fever, varicella, broncho-pneumonia and osteomyelitis. Adrenalin in 15–20 drop doses of the 1 in 1000 solution three times a day is strongly recommended to relieve pain and to prevent the progress of the deformity.

CHRISTOPHER ROLLESTON.

The Roentgenographic appearances in rickets (‘*Journ. Amer. Med. Assoc.*,’ 1915, LXV, *p.* 2062).—**R. W. Lovett,** in a paper which is well illustrated, discusses the appearances found in between 500 and 600 skiagrams taken of cases of rickets. In this disease constant changes are found while the process is active, and are located most markedly in the epiphysis and the epiphyseal end of the shaft, though they also involve the shaft itself. The most important are (1) delayed ossification and indistinctness of the epiphysis, (2) fraying out of the end of the shaft next to the epiphyseal line, (3) broadening of the end of the shaft next to the epiphyses, (4) cortical thickening on the concave side of curved bones, and (5) areas of diminished density in the bone shadow of the shaft. Periosteal thickening and multiple fractures often occur in the acute stage of the disease. The differential diagnosis is also discussed, and it is pointed out that in chondro-dystrophia fœtalis the epiphysis is clear and regular in outline, but the ends of the diaphyses are broadened. The distinction between rickets and congenital syphilis is more uncertain in children old enough to have acquired the former disease.

T. R. WHIPHAM.

Treatment of rickets with anæmia and large spleen by radiotherapy (‘*Riv. di clin. pediat.*,’ 1914, XII, p. 707).—**F. Lanzarini** records three cases. After about a month of treatment there was an increase of hæmoglobin of 5, 8, and 10 per cent. The red cells were slightly increased, and hence the globular value rose. In two cases a definite leucocytosis occurred on the day when the treatment took place. In the third this leucocytosis reached a high figure, but disappeared rapidly. No marked modification in the leucocytic formula was noticed, except an increase of polynuclear neutrophiles on the day of treatment. In two cases there was increase of body weight. In all the cases diminution in the volume of the spleen took place a fortnight after the treatment was commenced, and was progressive, reaching the normal limits in one case.

VINCENT DICKINSON.

Infantile scurvy (‘*Journ. Amer. Med. Assoc.*,’ 1915, LXV, *p.* 1003).—**A. F. Hess** draws attention to the fact that in addition to the bone-lesions the heart is enlarged chiefly on the right side in cases of infantile scurvy. Œdema is also present in some degree: it occurs early in the course of the disease and involves most frequently the eyelids. It is often manifested as a firm œdema over the lower ends of the tibiæ, infiltrating the skin, and is readily overlooked as it does not pit on pressure. It may also infiltrate the muscles, and when it occurs in the thigh it may be mistaken for the typical sub-periosteal hæmorrhage. It would further seem probable that the nerves are involved in infantile scurvy. The knee-jerks are increased, and there are indications of superficial tenderness of the limbs, and neuro-œdema of the optic discs. In these ways infantile scurvy assumes actual relationship to beri-beri, in which the right side of the heart is also hypertrophied and the nerves are invariably involved. This correlation was emphasised still further by a dietetic test in which it was found that the addition to the diet of the pericarp of wheat caused, in many instances, a prompt amelioration of the symptoms, when no other antiscorbutic food was included, although it did not suffice to cure the disorder.

T. R. Whipham.

Infantile scurvy (with twenty-six personal observations) (*'Arch. de Méd. des Enf.,'* 1915, XVIII, p. 181).—**J. Comby.** *Ætiology.*—Preserved food, sterilised milk, and sameness of diet conduce to scurvy. All the children affected were artificially fed. Sixteen were less than one year old; ten over a year; fourteen were boys, twelve girls. Rickets was present in the majority. *Symptomatology.*—The onset is insidious; the child becomes languid, pale, and feeble; he then cries on being touched, or even approached, and cannot walk; his lower limbs become as if paralysed, and painful (twenty-five out of twenty-six cases). Hæmorrhages sometimes occur in the periosteum (seven cases), sometimes in the gums (twenty-one cases). Disseminated purpura was noted in three cases. Marked anæmia in a child artificially fed should suggest the possibility of the appearance of scorbutus later. No deaths occurred. *Treatment.*—The patient should be kept quiet in bed. All preserved foods should be stopped, and fresh, boiled milk given instead. Lime-juice should be given three times a day. Beef-juice can be given to children over a year.

F. R. B. Atkinson.

A case of Barlow's disease (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 89).—**M. Lasalle.**—Breast-feeding had to be supplemented in this case from the first, and at the age of six months the child was being fed entirely on cow's milk. Diarrhœa and skin eruptions then set in and Mellin's food was substituted with complete success. At or about the age of 16 months constipation, gingivitis and an ecchymosis on the ear and thigh appeared. The usual treatment was adopted with a satisfactory result. The author considers that the addition of carbohydrate has nothing to do with the disease. Carbohydrates cause constipation and the formation of sulphurated ethers in the urine. The various methods of preparation of patent foods remove the antiscorbutic powers. Patent foods are very dangerous when given for prolonged periods and when the date of their preparation is remote.

Christopher Rolleston.

Diseases of the Blood.

Blood coagulation in infancy (*'New York State Journ. Med.,'* 1915, xv, *p.* 348).—**H. L. K. Shaw** and **F. J. Williams** consider that the clinical significance of the blood coagulation time in young children has not received from the pædiatrician the attention it deserves. They give the technique of two methods employed by them, namely, (*a*) the method of Dale and Laidlaw; (*b*) the method of Russell and Brodie. With the former method they found that the average coagulation time was 1 min. 30 sec. in a series of 108 healthy infants under two years of age. This is a slightly shorter time than in adults. With the Russell-Brodie method they obtained the following results: Average time of coagulation, (*a*) in 95 examinations in infants under one year of age, 3 min. 47 sec.; (*b*) in 35 examinations in infants between one and two years of age, 3 min. 54 sec.; (*c*) in 20 examinations in infants between two and three years of age, 3 min. 58 sec. This is a much lower average than in the case of healthy adults. As the result of their investigations the authors believe they have established a normal coagulation time for infants. J. ALLAN.

The relation between the blood-pressure and the viscosity of the blood ('*Arch. de Méd. des Enf.*,' 1915, XVIII, *p.* 261).—**P. Gautier** studied this relation in forty normal children, aged from 1 month to 13 years, with Pachon's oscillometer and Hess's viscometer. He found that the maximum tension increased from the time of getting up in the morning until going to bed in the evening. The older the child the wider the difference between the morning and evening records. The minimum tension also increased in the course of the day, but in a less degree than the maximum. The pulse-pressure was therefore higher at the end of the day than in the morning. The viscosity of the blood behaved in an exactly opposite way, being high in the morning and then falling. The younger the child the lower the pulse-pressure and the sphygmo-viscometric relation, the viscosity varying only slightly with age. Before two years of age the sphygmo-viscometric relation oscillated between 0·75 and 1·05, later it ranged from 1 to 1·50. In eight anæmic children there was a fall in the viscosity, the average being 3·04 as contrasted with the normal 4, and the sphygmo-viscometric relation was higher than in healthy children of the same age (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, p. 78).
J. D. ROLLESTON.

Hæmorrhagic conditions in infancy ('*Cleveland Med. Journ.*,' 1915, XIV, *p.* 533).—**J. Phillips** reports: (1) Three fatal cases of intracranial hæmorrhage in infants, aged 5, 6, and 7 days, in whom the late onset of the hæmorrhage suggested that it was not due to trauma at birth, but to a defect in the blood- and vessel-wall. In support of this view was the fact that in one case there was bleeding from the bowel and into the scrotum, and in the other bleeding from the vagina. Two died immediately after operation, and in one no operation was performed. (2) A hæmorrhagic condition due to congenital syphilis in a baby 11 weeks old, who had numerous petechiæ and bleeding from the mouth and nose. Death occurred at the age of 4 months. The necropsy showed a very large liver and spleen, and evidence of syphilis in the viscera and bones. (3) Two cases of hæmorrhage in the newborn successfully treated by injections of horse-serum. J. D. ROLLESTON.

Gaucher's disease ('*Bull. Johns Hopkins Hosp.*,' 1916, XXVII, *p.* 1).—**J. H. M. Knox, R. Wahl,** and **H. C. Schmeisser** report two cases in infants, sisters, who did not thrive from birth, and who died, one at 11 months, the other at 12 months of age, from gradually increasing weakness. The most striking clinical feature was the great enlargement of the liver and spleen. The blood picture was that of a moderate anæmia. The leucocytes were rarely increased, and for the most part were markedly reduced in number. The skin in both cases had a peculiarly yellowish-brown hue, more marked on the face and exposed surfaces. In one case the diagnosis was confirmed during life by the examination of an excised lymph gland. Microscopically in both cases nearly all the organs were found to contain large, pale, granular or fine vacuolated cells, in which there was a peculiar refractive substance having the chemical and staining properties of lipoid material. These cells were apparently identical with those described by Gaucher. These cases and that of Niemann (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, XI, p. 448 and 460) are the only ones in which the disease has been reported in infancy. The presence of cherry-red spots in the maculæ of one of the cases, resembling those found in amaurotic family idiocy, suggests that the essential degeneration in the latter condition may possibly be of a similar nature. J. D. ROLLESTON.

Gaucher splenomegaly diagnosed by spleen puncture before operation (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1907).—**E. P. Bernstein.**—The following case is claimed to be the first of its kind in the literature. The patient was the sister of a boy who had been successfully splenectomised about two years previously for what was clinically diagnosed as Gaucher's disease and proved so after operation by histologic study of the spleen. Other than this family history and a moderately enlarged spleen, there were no symptoms pointing to or warranting the diagnosis of Gaucher's splenomegaly in the sister. A simple puncture with a good-sized needle and syringe was made and sufficient spleen pulp and blood mixture was aspirated to render a good-sized drop in the needle. This was spread over cover-glasses, fixed with methyl alcohol and stained with the Giemsa solution. The characteristic multinucleated endothelioid cells were found in abundance and the diagnosis established. The spleen on removal showed the typical pathological picture of Gaucher's disease both in spreads of the spleen pulp and sections of the organ. T. R. WHIPHAM.

Acute lymphatic leukæmia (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1630).—**C. E. Simon** and **C. C. W. Judd** have obtained post-mortem from the glands of a male patient, aged 20 years, who died from acute lymphatic leukæmia, the same organism which appears to occur so constantly in Hodgkin's disease, viz., the *Corynebacterium lymphomatosis granulomatosæ*. Since Steele found an organism of the same order in another case of acute lymphatic leukæmia, a boy, aged 12 years, this, they say, can hardly be a coincidence, and naturally raises the question of a possible relationship between the two diseases. Further observations, however, are necessary.

T. R. WHIPHAM.

A case of lymphatic leukæmia with apparent cure (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 948).—**R. A. Ireland** reports the case of a boy, aged 10 years, who had been out of sorts for a month. His skin was bronzed and the glands were everywhere enlarged. The spleen also was slightly enlarged. The blood showed a leucocytosis of 20,000; polymorphonuclears 2·5, small lymphocytes 67·5, large lymphocytes 30 per cent.; platelets absent; red cells 3,000,000; hæmoglobin 75 per cent. The case was treated with the syrup of the iodide of iron and Fowler's solution internally, and Roentgen-ray exposures were made for five minutes each day (? where, T. R. W.). There being no improvement at the end of ten days the treatment was discontinued, and 0·3 grm. of neosalvarsan was given.

This was repeated twice at intervals of six days and three weeks. At the time of the last injection the white cells numbered 16,000; polymorphonuclears 16, small lymphocytes 69, large lymphocytes 15 per cent. The boy had gained 3 lb. in weight and had improved in colour, and Roentgen-ray treatments were started again. Two and a half months later the white count was 12,000; polymorphonuclears 44, small lymphocytes 43, large lymphocytes 12, eosinophiles 1 per cent. The Roentgen-rays were discontinued, and iron and arsenic were given again for a period of two months. Six months later the polymorphonuclears were 37·5, esinophiles 3·5, basophiles 1, small lymphocytes 37·7, large lymphocytes 15, large mononuclears 2·3, and transitionals 3 per cent. The red cells and platelets were also normal. T. R. Whipham.

Benzol in leukæmia (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1734). —**F. H. Smith** gives a further account of his two cases of leukæmia, treated with benzol, which have already been reported (*vide* British Journal of Children's Diseases, 1914, XI, *p.* 451). The patient with lymphatic leukæmia has died, but the boy, a case of the splenomyelogenous type, is alive, a year and seven months after the disease was discovered, and suffers from no subjective symptoms. His latest leucocyte counts have varied between 4400 and 29,260, and he is still taking benzol (20–24 drops thrice daily) intermittently. The writer does not consider that benzol is curative in its action, but regards it as having a most remarkable inhibiting influence on the course of the disease. At the same time he strikes a note of warning as regards the dangers attending its use, such as the onset of an aplastic anæmia. T. R. Whipham.

Splenectomy for splenic anæmia (*'New York State Journ. Med.,'* 1914, XIV, *p.* 435).—**R. S. Fowler** records a case in a female infant, aged 14 months, in which removal of the spleen was followed by much improvement in the general health and in the anæmic condition.

J. Allan.

Splenectomy for splenic anæmia (*'Lancet,'* 1914, II, *p.* 1247).—**W. Essex Wynter** and **J. Bland-Sutton.**—The patient, a boy aged 13 years, had been ailing for six weeks, suffering from lassitude and some enlarged glands. He was sent for treatment by the school doctor, and was thought at first to have Hodgkin's disease, but improved under treatment as an out-patient. In July, 1914, the boy was anæmic and thin, but made no definite complaint of pain or discomfort. The thoracic and abdominal viscera appeared normal apart from the spleen, which was much enlarged, and extended 4½ in. below the left costal margin and inwards to the middle line. Small, firm glands could be detected in the neck, axillæ, and groins. The thyroid was enlarged, especially the isthmus. Blood-count: Red cells, 4,200,000; white cells, 2600; hæmoglobin, 60 per cent. A differential count showed no disturbance of the ordinary proportion in white cells. Temperature 99° F. Urine normal. Splenectomy was done in July, and in November a blood-count showed red cells, 4,800,000; white cells, 8000; hæmoglobin, 62 per cent. J. Allan.

Splenectomy in splenic anæmia (*'Glasg. Med. Journ.,'* 1915, II, *p.* 241). —**J. S. M'Kendrick**, in recording a series of cases illustrating some of the rarer blood diseases, describes two cases of splenic anæmia in children—a boy, aged 15 years, and a girl, aged 8 years—in which splenectomy was performed with apparent cure. Both cases have remained in good health since the operation. J. ALLAN.

The rational treatment of Hodgkin's disease (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1953).—**J. L. Yates** and **C. H. Bunting** give a long dissertation on Hodgkin's disease in general, laying special stress on its ætiology and treatment. A previous paper by the same authors relating to the *B. hodgkini* has already been abstracted (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, XI, *p.* 454). As regards treatment, the authors' aim is (1) to exclude all possible liability to reinfection, hence a removal of the primary source of infection and its portal of entry; (2) to eliminate by excision of glands of at least the major portion of the diseased tissue with the bacteria and toxins contained therein, in order to prevent further dissemination and to place the balance of power in favour of individual resistance; (3) to destroy the remaining fraction by any and every means, especially by the Röntgen ray, hygiene, and vaccine therapy; (4) to convert into fibrous tissue by hygiene and the Röntgen ray such irremovable abnormal tissue as cannot undergo resolution; (5) to continue treatment as circumstances seem to indicate until a clinical and X-ray examination and a normal blood picture indicate that a cure has been of at least a year's duration. T. R. WHIPHAM.

A case of lympho-granulomatosis (Sternberg's disease) (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 429).—**M. Blanc** describes this case occurring in a boy, aged 5 years. The disease is due to inflammation and development of granulation tissue tending to induration and necrosis. It remains localised in the neck or mediastinum and in all advanced cases the spleen is affected. The diazo reaction is generally positive. X-ray treatment is the best. Arsenic by injection has been recommended.

F. R. B. ATKINSON.

A case of infectious purpura (*'Arch. of Ped.,'* 1915, XXXII, *p.* 528).—**P. S. Potter** records a fatal case of about seven weeks' duration in a boy, aged 10 years. The right tonsil was ulcerated, and cultures from it showed streptococci, staphylococci, a fusiform bacillus, and a spirillum. Hæmorrhages occurred in the skin, and there were also hæmatemesis, melæna, and hæmaturia. Cultures of the blood showed streptococci.

J. D. ROLLESTON.

Intramuscular injections of whole blood in the treatment of purpura hæmorrhagica (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 20). —**H. W. Emsheimer** reports the case of a boy, aged 5½ years, whose only illness had been measles two years previously. A profuse hæmorrhagic eruption and hæmaturia developed rapidly, with anæmia and slight fever. The passage of blood *per urethram* was accompanied by terrific pain. There were no abdominal crises nor history of rheumatism, hæmophilia, or other abnormal blood condition. Calcium lactate in large doses, epinephrin, arsenic, codein, and later subcutaneous injections of horse-serum failed to have any effect. Consequently 20 c.c. of blood drawn from the median cephalic vein of a relative were rapidly injected intramuscularly, with the result that in twelve hours the hæmaturia became much less marked, and on the following day the urine was clear. At the end of ten days there was no blood to be seen microscopically. The improvement in the skin condition was less striking, but steady. Some fresh hæmorrhage appeared, but the eruption gradually faded, and in six weeks all evidence of hæmorrhagic diathesis had entirely disappeared. T. R. WHIPHAM.

The specific cure of Leishmaniosis in children (‘*La Pediatria*,’ 1916, XXIV, *p.* 1).—**R. Jemma** states that the treatment of this condition by tartar emetic does not induce any special lesions in the organs of children suffering from it; its action is one of protistolysis, commencing as a protoplasmolysis, then passing into nucleolysis, and ending with the disappearance of the blepharoblast. The protistolysis is evident after the first injection, and is complete after the third; it exerts its influence first on the vascular endothelium of the liver, then on the mesenchymatous cells of the bone marrow, and finally on those of the spleen. VINCENT DICKINSON.

A new preparation of antimony for intramuscular injection in infantile Leishmaniosis (‘*La Pediatria*, 1916, XXIV, *p.* 65).—**G. Caronia** has experimented with several substances, and gives the preference to acetyl-p-aminophenylstibiate of sodium on account of its greater efficacy, easy absorption, and less toxicity. It is freely soluble in distilled water, and contains 38·5 per cent. of antimony. The solution, however, changes after a time, especially in concentrated solutions, and should therefore be freshly prepared for use. The dose varies according to age. Below 2 years it is advisable to begin with 3 cgrm., rising to a maximum of 10 cgrm. Beyond 2 years we may begin with 5 cgrm., rising to 15 cgrm. In some cases the author has used 20 cgrm., but such a high dose gives rise to considerable infiltration, which hinders the subsequent process of treatment and may cause abscess. But 15 cgrm. is not to be recommended even in older children, since by continuing a maximum of 10–12 cgrm. a cure may be equally well obtained without inconvenience, though requiring a longer time. The injections are made every other day or every third day on alternate sides, an increase of 2 or 2½ cgrm. being made each time. No intolerance or renal lesions are produced. Details of four cases thus treated are given. The ages varied from 1 to 3½ years. In one the disease had lasted 20 months, and was cured in 3 months. Two others, in which it had lasted 6 and 8 months, were cured in 10 and 16 days respectively.

VINCENT DICKINSON.

Treatment of infantile kala-azar by splenectomy (‘*Arch. de Méd. des Enf.*,’ 1915, XVIII, *p.* 349).—**J. S. de Souza** is of the opinion that in cases of splenomegaly splenectomy is indicated when the blood shows a diminution in the number of red corpuscles together with a leucopenia. Strictly speaking, the blood examination should be completed by a determination of the fragility of the red cells. In cases where the diminution in the number of reds is solely due to an increased fragility a leucopenia is not found, but, on the contrary, a normal or even increased leucocyte-count. In kala-azar a diminution of both the red and white cells is one of the characteristics, and the author, therefore, proposes splenectomy in this disease. By the operation he seeks only to cure the anæmia due to the excessive macrophagic action of the spleen, which tends to kill the child, and not to bring about a disappearance of the parasites from the bone-marrow, liver, and peripheral circulation. The author has performed four splenectomies in children for kala-azar and one for splenic anæmia. In every case the red and white cells have increased after the operation and the hæmoglobin value has risen. He has also removed the spleen in two cases of malaria. Of the kala-azar cases two died, one from influenza, one from gastro-enteritis. The ultimate result in the other two is not stated, but the parasites still persisted. In the splenic anæmia case the red cells rose after the operation from 840,000 to 2,830,000, and the whites from 5000 to 17,200, and the hæmoglobin from 20 to 55 per cent. The child was discharged from hospital apparently well. The result in one of the malaria cases was apparently successful; but in the other there was a further diminution of the reds after the operation. De Souza prepares his patients for operation by a course of calcium chloride for four or five days previously, and on the day itself by an injection of horse-serum. In operating he favours an incision parallel to the course of the inferior intercostal nerves, *i. e.* from the end of the seventh or eighth rib to the umbilicus, or beyond if necessary. T. R. WHIPHAM.

Orthopaedics.

Structural changes in congenital hip dislocation ('*Journ. Amer. Med. Assoc.*,' 1915, LXV, *p.* 1805).—**W. Blanchard** states that eight months is the shortest time in which a dependable acetabulum reforms, and any radical change in the position of the leg interrupts the rebuilding process. The unchanging pressure of the femoral head accelerates the absorption of the extraneous structures that obstruct the acetabulum. After the plaster spica has been removed, the child should be left to its own devices, and the longer the abduction remains, the more stable the joint will become. The best functional result may be obtained in children from 3 to 5 years of age and with from 2·5 to 4 cm. of shortening. There is no age limit, upward. The older the child and the greater the shortening, the more secure the replacement, if it can be made. The difficulty of reduction increases with the shortening after 4 cm. have been passed. A reduction by steps can be gained in older children with 5 cm. or more of shortening. The head should be brought as near as possible to the acetabulum and put into a plaster spica just the same as if reduced, and a second attempt, made three weeks later, may result in a satisfactory replacement. Reduction should be delayed in all cases of 3 years or younger and that show 2 cm. or less of shortening. The child needs all the freedom that can be safely accorded, and a great majority of unilateral cases will do best in unilateral plaster spica. If the roentgenogram shows delayed ossification from rickets or other causes, the reduction must be postponed. Roentgenographic observations of the hips should be taken before and after reduction, and at frequent intervals, so that a careful watch may be kept of the bone regeneration that produces a good joint. T. R. WHIPHAM.

Anteversion of the neck of the femur with congenital dislocation of the hip ('*Journ. Amer. Med. Assoc.*,' 1915, LXV, *p.* 1801).—**R. A. Hibbs** draws attention to the fact that, although anteversion of the head and neck of the femur is known to occur in cases of congenital dislocation of the hip, its influence on the final result of treatment is not generally recognised. A normal gait cannot be attained when the deformity exists to any considerable degree, as, with the toe and patella pointing forward, the head of the femur cannot be completely in the acetabulum. The defect seems to be due to a twist in the shaft of the femur, since X rays show no change in the relation of the head and neck to the two trochanters. The author advises that in such cases an osteotomy should be done at the lower third of the femur before any attempt is made to reduce the dislocation. After the bone has united the patient is allowed to walk from eight to ten weeks until the external rotation of the leg is corrected by exercises and the normal position in walking is attained. At this point in the treatment the dislocation should be reduced. T. R. WHIPHAM.

Congenital dislocation of hip treated by Lorenz' method ('*Dublin Journ. Med. Sci.*,' 1915, II, *p.* 212).—**W. S. Haughton**, at the Section of Surgery of the Royal Academy of Medicine in Ireland, showed a case which had been under treatment for a little over two years, which was about double the normal time required. The delay was first due to gastric attacks and then to measles. Double dislocation cases always took longer to treat, as the stages had to be gone through more gradually. Skiagrams before the treatment and during its progress were exhibited, and attention was directed to the relation of the head of the bone to the acetabulum, the development of the bone, the development of the femur, the development of the acetabulum. At the same meeting **W. C. Stevenson** showed a child who had been treated for double congenital dislocation by the Lorenz method. He said that the left hip was easier to reduce than the right, and it was also found easier to keep it in position. The right hip was only recently taken out of plaster. Massage treatment was now being carried out in order to develop the strength of the leg. J. ALLAN.

Pseudo-coxalgia ('*Clin. Journ.*,' 1915, XLIV, *p.* 361).—**E. M. Little**.—There are fifty cases on record, forty in boys, and ten in girls. It is almost always unilateral. There are no known causes; hypothyroidism has been suggested. The X rays show flattening of the femoral head. The epiphysial line between the head and neck is irregular and widened. Light spots are to be seen in the head. The process is a chronic one and may last for two or three years when the patient has lost his limp, but there may be some shortening and reduction of abduction and rotation. The author recommends fixation in abduction by plaster of Paris. Two cases in boys are described. F. R. B. ATKINSON.

Infantile osteochondritis deformans of the hip ('*Riv. di clin. pediat.*, 1915, XIII, *p.* 401).—**F. Detilala** describes eight cases. The disease is rare; out of 1500 cases of affections of the hip in the orthopædic clinic he found only six cases. It occurs mainly between the ages of 3 and 10 years, and usually affects one side only. It is characterised clinically by atrophy of the limb, limitation of abduction, elevation of the great trochanter, scarcely perceptible shortening, Trendelenburg's sign, and lameness; radiograms show deficient and irregular development of the cephalic nucleus, zones of juxta-epiphysial atrophy of the femoral neck, and slight changes in the acetabulum; differential diagnosis must be made from congenital dislocation of the hip, coxa vara, tuberculous coxitis, and infantile arthritis deformans. Tuberculosis, infectious diseases, and traumatism play no part in its causation. The origin of the disease is to be sought in a congenital change either of the epiphysial cartilage of the upper end of the femur, or of the epiphysial nucleus, giving rise to insufficient and irregular processes of ossification. From this point of view it is closely related to congenital coxa vara, and there is a possible connection between this characteristic alteration of the skeleton and the endocrinic glands. VINCENT DICKINSON.

Juvenile deforming osteochondritis of the hip (*'Journn. Amer. Med. Assoc.'* 1915, LXV, *p.* 1637).—**G. J. McChesney** gives an account of this condition, which was first described by Perthes two years ago. The disease appears when the child is in good health, and is not especially concerned with any specific trauma. It occurs most frequently in boys during the second five years of life. A slight limp is noticed early and persists till late, becoming more and more intermittent, and is accompanied by slight or no pain. It may last from two to four years and then lessens, in spite of greater destruction of the epiphysis. Abduction is limited and is marked at first, and there is also some limitation of inward and outward rotation; occasionally hyperextension is limited and slight shortening and atrophy are noticed. Pathologically there is a delay in ossification of the cartilage of the epiphysis, and to a lesser extent in the juxta-epiphysial cartilage of the neck and isolated areas in the acetabulum. There are also calcareous nodules in the ossification centre of the epiphysis. As a result flattening or crushing of the epiphysis occurs, and later the flattened epiphysis breaks into two or three pieces, and finally unites with the neck, which has become shorter and thicker than normal. The condition must be distinguished from tuberculosis of the joint, juvenile deforming arthritis, and coxa vara. In some cases no treatment appears necessary, but if the symptoms are increasing, correction of abduction and the application of a plaster spica may be necessary, or extension and massage may be tried. Occasionally other joints may be similarly affected. The writer records three cases from his own practice. T. R. WHIPHAM.

Traumatic dislocation of the hip-joint in a child (*'Lancet,'* 1916, I, *p.* 80).—**H. Platt** and **H. M. von Mengershausen** report this case in a boy, aged 6 years. When running down a hill he slipped, fell forward on to his face, and rolled over and over several times. He felt something "give" in his left hip. He was seen within an hour of the accident. It was impossible to obtain an accurate description of the exact violence and the position of the limb at the time. The left lower limb was held in a position of flexion, adduction, and inversion at the hip. The limb was obviously shortened and the trochanter unduly prominent. On palpation the trochanter was found to be elevated above Nelaton's line, and the head of the femur could be felt on the dorsum ilii. There were no signs of bruising and no crepitus was elicited. Under anæsthesia the dislocation was reduced with ease by flexing the limb on the abdomen and then abducting as in the Ridlon method of reducing a congenital dislocation. A long Liston splint was then applied. An X-ray plate taken after reduction showed no local anatomical abnormality which might have predisposed to dislocation, the femoral heads and acetabula being perfectly symmetrical. At the end of three weeks the splint was discarded, and the boy was allowed to kick his leg about at will. He rapidly gained mobility in the affected joint. When seen two months after the accident he was walking without perceptible limp. The hip showed full range of motion and there was no pain or instability. Reference is made to some previously recorded cases.

J. ALLAN.

Unilateral rotatory displacement of the cervical spine ('*Interstate Med. Journ.*,' 1915, xxii, *p.* 983).—**H. J. Fitzsimmons** reports four cases, all in children, of rotatory displacement between the axis and atlas to one side without any symptoms of injury to the spinal cord. Three were the direct outcome of an injury, but the fourth followed a mastoid operation without any definite cause. The cases illustrate the following symptom-complex from which a diagnosis of this type of "twisted neck" can be made: (1) Inability to rotate the head without tilting the chin on the side affected. (2) Prominence of the transverse process of the axis on the side affected. (3) Occipital pain. (4) Absence of muscle contractions which can explain the deformity and restriction of rotation. (5) Absence of nerve lesions. (6) Radiographic confirmation of cervical displacement. In two of the cases reduction occurred spontaneously; in the others it was brought about by manipulation, forcible traction in such cases being useless. The head should be extended diagonally in the direction between the backward line and the lateral line on the side of the convexity. The lateral process and the laminæ of the vertebræ thus furnish a fulcrum by means of which the misplaced articular process is readily lifted. A slight rotatory movement then completes the reduction. The condition must not be confounded with torticollis, and can be distinguished by the relaxed condition of the muscles on the side towards which the twist exists.

T. R. Whipham.

The treatment of rigid rotary lateral curvature of the spine by a new brace ('*New York State Journ. Med.*,' 1915, xv, *p.* 350).—**S. Kleinberg** describes a brace devised by him for lateral spinal curvature. The patient is placed in an Abbott jacket obtaining as much correction as possible, the jacket is promptly removed, filled with plaster from a torso, and over this the pattern is outlined for the brace-maker. The apparatus consists of pelvic and thoracic steel bands connected by several upright bars to which are attached canvas bands used for pressure. When applied to the patient the brace effectively maintains the flexed position. It is very essential in preparing the torso to provide sufficient room for complete correction, thus enabling the surgeon to carry out all of the active corrective treatment in the one instrument. One of the objections to the Abbott jacket has been that it caused compression of the chest on the side of the deformity. To obviate this there was inserted in the earlier braces an additional steel upright to guide the canvas bands, thus removing lateral pressure. This, however, was soon discarded as it invariably interfered with correction of the deviation deformity. In reviewing about 100 patients under observation during the past three years the author finds that practically no improvement is obtained in the following types of scoliosis: (1) Curvatures with sharp angulation of the ribs, sometimes called "razorbacks"; (2) high dorsal curves; (3) cases with marked distortion in the lumbar region; (4) severe **S**-shaped curves with the dorsal deformity equal in extent and degree to the lumbar; (5) mild deformities with congenital malformations. The following types of deformity were found favourable for treatment: (1) Single curves to the right or left of mild or moderate degree; (2) cases with long dorsal and short compensatory lumbar curves; (3) mild **S**-shaped curves; (4) cases with moderate deformity in the lower half of the dorsal region, and very little compensatory deformity above or below this. The results of treatment depend not upon the age of the patient, but upon the nature of the deformity and in the prognosis of a given case one must take into consideration the following factors: (*a*) Length of time the deformity has been in existence; (*b*) location of the deformity; (*c*) degree of severity of the deformity; (*d*) type of the deformity, single, double, or triple curve; (*e*) congenital malformations. J. ALLAN.

Fracture of the lumbar spine without compression of cord ('*Interstate Med. Journ.*,' 1915, XXII, *p.* 1239).—**W. C. Campbell.**—Few cases of fracture of the spine unaccompanied by pressure on the cord have been recorded, but the writer thinks that such cases must frequently pass unnoticed, as the trauma may be slight or the symptoms referable to the spine be overshadowed by severe peripheral injury. Symptoms vary according to the seat of fracture. There may be pain, which is usually referred, as though in the sacro-iliac joint, sciatic nerve, or even the right lower quadrant of the abdomen, closely simulating appendicitis; muscular spasm may be general, unilateral or irregular. The patient usually complains of weakness, especially inability to lift even light objects. A small kyphosis may indicate the injury, but is by no means diagnostic, as an abnormally long spinous process may present the same appearance. The symptoms increase in neglected cases, and it is possible that callus-formation and further deformity may interfere with the canal. Five cases are recorded, one of which was a boy, aged 11 years, who two months previously had fallen from a tree 8 ft. on to the buttocks. He was stunned for several minutes, and on the second day had pain in the left lumbar region. The next day he was feverish, and continued so for several weeks, during which time he had pain in the left side and lower portion of the abdomen and in the left hip. The left hip gradually became flexed. When seen he walked with the hip flexed and his hand on the knee. The hip could not be extended beyond 90°. Abduction was slightly limited, but flexion and rotation were free; there was also some tenderness in the left side of the abdomen. The spine could not be bent to the right and only slightly to the left; flexion was about normal, but extension was limited. A skiagram showed lateral displacement, with possible fracture of the articular processes of the fourth lumbar vertebra. The treatment employed in these cases consisted in traction on the head and both lower extremities until over correction in the best possible position was attained, and the application of a plaster jacket. The result in all cases was successful.

T. R. WHIPHAM.

Transplantation of bone for non-regeneration of the tibial shaft ('*Journ. Amer. Med. Assoc.*,' 1916, LXVI, *p.* 177).—**M. S. Henderson.**—A girl, aged 6 years, had seventeen months previously had acute osteomyelitis of the left tibia. Pus was evacuated by incisions, and two months after the onset subperiosteal resection of the whole shaft of the bone was performed. When seen there was incomplete regeneration of the bone in the upper and middle thirds and a compensatory enlargement of the fibula. As the sinuses had been healed only two months nothing further was done, but three months later, as no further regeneration had occurred, a piece of bone, 4½ in. long and ⅝ in. wide, was removed from the opposite tibia and transplanted, silver wire being used to hold it in place. Three months later the graft was firmly united, but as the result of a slight accident a fracture occurred where the silver wire had caused an osteoporosis. At the end of a year there was only fibrous union, so a second graft was transplanted and the wire removed. The result has been quite satisfactory, and the formation of a medullary cavity in the transplanted area can be seen in the skiagram.

T. R. WHIPHAM.

Arthroplasty of elbow (*'Dub. Journ. Med. Science,'* 1915, II, 449).—**D. Kennedy.**—A girl some nine or ten months before injured her elbow by a fall, and since then there was complete ankylosis. X rays showed that the humerus was not normal, but was somewhat battered. It was decided to operate and do an arthroplasty or adopt whatever treatment was suggested by the condition found. A projection was found on the inner side of the articular end of the humerus. The projection was removed off the ulnar aspect of the humerus, and the end of the humerus was put level. A flap was then taken partly from the lateral aspect of the arm, and almost entirely consisting of fat, and turned over the humerus, leaving the ulna and radius as they were.

J. ALLAN.

Crippled tuberculous children (*'Brit. Journ. Tuberc.,'* 1916, X, *p.* 12).—**H. F. Gauvain** points out that as disease as well as deformity is present, the correction of the latter is limited by the particular phase of the ailment. To illustrate this, examples of (*a*) acute dorso-lumbar caries with double psoas abscess, and (*b*) neglected dorsal caries with extreme deformity, are described. In (*a*) the main factor in the production of the deformity is the spasm of the psoas muscles, which causes flexion of the thighs and rigidity of the spine. The spine must therefore be gradually hyperextended and the psoas muscles stretched and kept at rest. To answer these requirements the "wheelbarrow" splint has been devised, which applies hyperextension at the correct point. Back splints are applied to the legs and are provided with foot-pieces to prevent foot-drop. The abscesses are aspirated but never opened, as the latter proceeding would destroy the surrounding fibrous envelope of the abscess. Treatment should be continued until there is complete loss of spinal rigidity, which is best investigated by dorsi-flexing the thighs separately and together with the patient fully recumbent. The spine should be freely movable in all directions. Pain, tenderness, and gross deformity should be absent. Abscesses should not be palpable and not discernible by X rays unless calcification has taken place. In (*b*) great help is derived from lateral skiagrams. If there is much necrotic material and extension in the form of psoas abscess it is probable that no extensive ankylosis has taken place. In this case recumbency and immobilisation must be enforced. If there is little disease but ankylosis and deformity the patient should be suspended from a gallows, the point of traction on the head being carefully selected. A moulded plaster jacket should then be applied to maintain the spine in the corrected position.

CHRISTOPHER ROLLESTON.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

Sir,—Is the body of a child who has died from measles capable of contagion?

This is a question which the Middlesbrough Stipendiary (Mr. T. W. Fry) was called upon to decide on April the 28th, when a Corporation prosecution on a woman under a local Act for having allowed a person to come into contact with a body was again brought forward. At the first hearing the case was dismissed on the ground that there was no actual contact, and the case was then taken to the Higher Court, who returned it with a recommendation that the Stipendiary should convict if satisfied there was such close proximity as to risk infection.

Dr. Dingle, Medical Officer of Health for Middlesbrough, said that as an infectious disease measles was one of the most infectious, and spread more rapidly probably than any other disease. There was no doubt that when there was an epidemic of measles in the town last year very many cases arose through people visiting houses where there were cases of measles. Anyone entering a room where there was the body of a person who had died from measles was running a grave risk of infection.

In reply to the Stipendiary, Dr. Dingle said the range of infection would extend to all parts of an ordinary-sized room. A living case was capable of intense infection, and in the case of a dead body there must be infection.

The Stipendiary observed that the woman complained of had, on her own statement, laid out the body prior to the alleged offence and had experienced no ill-effect. Dr. Dingle replied it did not mean that she was not exposed to infection nor that she did not carry infection away with her.

The Stipendiary: Have you known anybody catch measles from a dead body? Measles has only officially come under our control this last year, and we have very little knowledge of the disease from that point of view.

Dr. Sidney G. Mostyn, Medical Officer of Health for Darlington, said that, judging from analogy in regard to other infectious diseases, risk of infection from a body of a person who had died from measles was considerable.

Judging from outbreaks at schools the atmosphere appeared to carry infection, and it was not necessary to come into actual contact.

The Stipendiary observed, in reversing his original decision, that he had the greatest possible doubt that the woman ran into danger in standing four or five feet from the body for three or four minutes, and he would not impose a penalty. The case bristled with technicalities, and he was bound to say was not a serious case on its merits.

I am, Sir,
Yours faithfully,
T. Stake.

Abingdon Road,
Middlesbrough.

Review.

Painless Childbirth: Eutocia and Nitrous Oxid-Oxygen Analgesia. By Dr. Carl Henry Davis, Associate of the Rush Medical College, Chicago: Forbes. 1916. Price $1.

The author defines eutocia as an easy, natural delivery. He holds that anæsthesia, or analgesia, is essential in the successful conduct of labour, and advocates the use of a combination of nitrous oxide and oxygen in preference to the "twilight sleep" of scopolamine. In a series of cases in which this anæsthetic was used the secretion of milk was more rapid than where no anæsthetic was used, as shown by the average weight of the babies in the two series. H. C. C.

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Original Articles.

HERPES RECURRENS.

By H. G. Adamson, M.D., F.R.C.P.,
Physician for Diseases of the Skin, St. Bartholomew's Hospital.

Everyone is familiar with the affection known as herpes labialis which frequently accompanies an ordinary cold, and with the similar herpetic eruption which occurs in association with many acute infectious fevers. It is recognised, too, that herpes may attack not only the lip, but also the cheek, the chin, the nostril, or the dorsal surface of the nose, the lobe of the ear, the buccal mucous membranes, or the skin or mucous membranes of the genitals, either in association with an acute infectious fever or with a common cold, or even without other symptoms beyond slight febrile disturbance. All these forms are included under the terms herpes febrilis or herpes recurrens, and are distinct from zona or herpes zoster. J. D. Rolleston has paid particular attention to herpes febrilis in association with acute infectious diseases, and he gives a list of these diseases with the relative frequency of herpes febrilis for each disease.

The list is as follows :—

Lobar pneumonia	40 per cent.
Malaria	
Cerebro-spinal fever	
Scarlet fever	6·5 per cent.

Influenza . . .	6 per cent.
Typhus . . .	5 ,,
Diphtheria . . .	4·01 ,,
Typhoid fever . .	1·3–3·5 per cent.
Relapsing fever . .	4 times in 160 cases
Smallpox . . .	2 ,, in 3000 ,,

He adds that it is common in non-diphtheritic angina, and notes the curious fact that an affection with the uniform characters of herpes febrilis should occur with so many different forms of microbic infection. But, as Hebra wrote in 1865, "we are still altogether in the dark as to the relation between herpes facialis (*i. e.* herpes febrilis) and these complaints." From analogy with herpes zoster, in which we find the same type of eruption associated with a lesion of the posterior root ganglia or of nerve trunks, it is supposed the herpes febrilis may depend too upon a nerve disturbance. It seems, however, that such nerve disturbance cannot be due to any specific micro-organism, but, possibly, as Schamberg has suggested, to a hypothetical toxin common to the various infections with which it is associated, which has a special affinity for nerve tissue and particularly for the sensory ganglia. Beyond such speculations we know nothing of the real cause of herpes febrilis.

Weill and Dufourt have recorded two cases of herpes labialis associated with pneumonia in which pneumococci were found in the herpetic vesicles; Rall obtained diphtheria bacilli from the eruption in a case of herpes with diphtheria. But it is not possible to say that the micro-organisms were the cause of the eruption, and it seems more likely that they were an accidental contamination.

In three cases under my own observation of simple herpes recurrens, *i. e.* unassociated with an acute specific fever, films and cultures showed sterile vesicles.

In some cases, especially in cerebro-spinal meningitis, herpes febrilis may be exceptionally severe and extensive, or may have an atypical distribution; but it is not so generally known that herpes recurrens may be severe or may be atypical in distribution in cases unassociated with the acute infectious fevers.

Dubreuilh has recorded examples of recurrent herpes facialis in which a large area of one cheek was involved. Such cases are often mistaken for the rarer examples of herpes zoster of the second division of the fifth nerve, but they are to be distinguished by their tendency to recur and by the absence of subsequent scarring.

Dubreuilh has also described a recurrent herpes of the buttock, and further examples have been recorded by Sequeira, by Parkes Weber, and by myself.

I published a few years ago a note of some cases of herpes febrilis of the fingers, and cases will be presently mentioned in which the eruption occurred upon the wrist and on the neck respectively.

HERPES FACIALIS.

The following is an example of herpes recurrens of the cheek. The patient was a boy aged 9 years. The eruption had appeared several times a year since he was aged 1½ years, so that he had had already from twenty-five to thirty attacks. He felt poorly before each attack. During the last attack there was a rise of temperature to 101° F., but no other symptoms. The eruptions had left no scars. The boy had adenoids, which have been removed since the last attack, but it is as yet too early to state whether this is going to cure the tendency to the herpetic symptoms.

The following are two cases of marked severity :

Fig. 1 represents the second attack in a boy aged 6 years, who had a similar attack in the same situation seven months previously, after an operation for removal of adenoids. On the second occasion the eruption involved the left side of the face and the lower part of the left side of the nose ; the glands in the neck were enlarged. The temperature was 100·8° F., and four days previously (two days before the eruption appeared) he had vomited several times.

E. L— was a girl aged 15 years, who had had many attacks since she was a baby, generally in the spring, always with a "cold" and always on the left cheek. The present attack was rather more severe than usual, and, in addition to a patch which covered the greater part of the cheek, there was a large patch on the right temple, and the upper and lower lips were involved.

Dubreuilh says of these severe cases of herpes facialis that the eruption always appears for the first time in early childhood, generally at about three or four years of age, but sometimes earlier ; that its duration appears to be indefinite, and that the intervals between attacks vary from one month to one year. The left cheek is affected more often than the right. The eruption recurs always on the same cheek, though it may affect other parts as well in some attacks. The ætiology is obscure, and menstruation as a factor can be excluded by the age and sometimes by the sex of the patients.

RECURRENT HERPES OF THE GLUTEAL REGION.

Dubreuilh collected seven published cases, and to these added another of his own observation. In these cases the eruption began for the first time at the ages of 30, 10, 26, 24, 23, 42, 33, and 41 years, and lasted from two to twenty-five years with outbreaks generally every few months. In some of these cases the patients had previously suffered from recurrent herpes in other more usual situations. A study of the ætiology of these cases brought out the facts that migraine, gout, gravel, and nervous troubles were common, either as personal or as family antecedents, and Dubreuilh concluded that herpes glutealis is a manifestation of latent or declared gout.

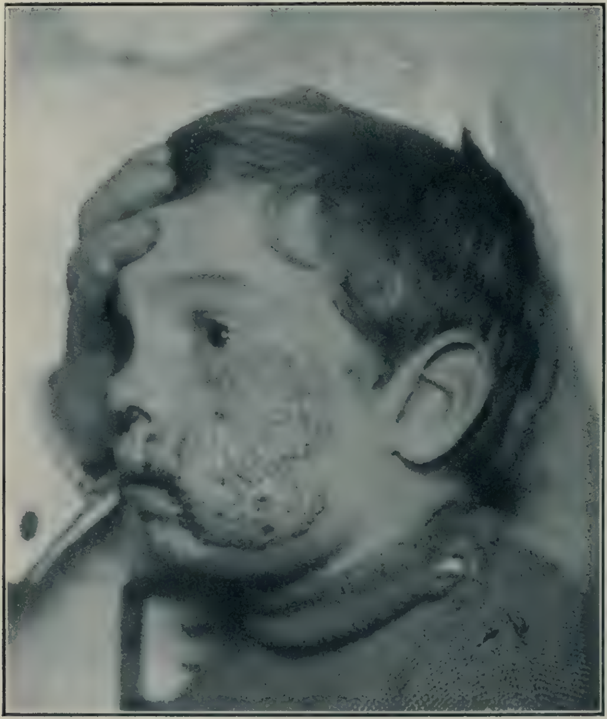

FIG. 1.—Herpes facialis.

In 1911 I published in the 'British Journal of Dermatology' the case of herpes of the buttock illustrated in Fig. 2, and also three other cases which had been under the care of Dr. Sequeira, who kindly gave me his notes.

The patient, L. R— (Fig. 2), was a boy, aged 7 years. The eruption consisted of a large herpetiform group of vesicles covering almost the whole of the right buttock, in a patch which measured 9 to 10 cm. in diameter. The eruption had appeared without any accompanying pain. The boy had had several attacks of herpes on the lips, and twice before a similar less extensive eruption on the right buttock. The temperature was normal, and the boy otherwise healthy.

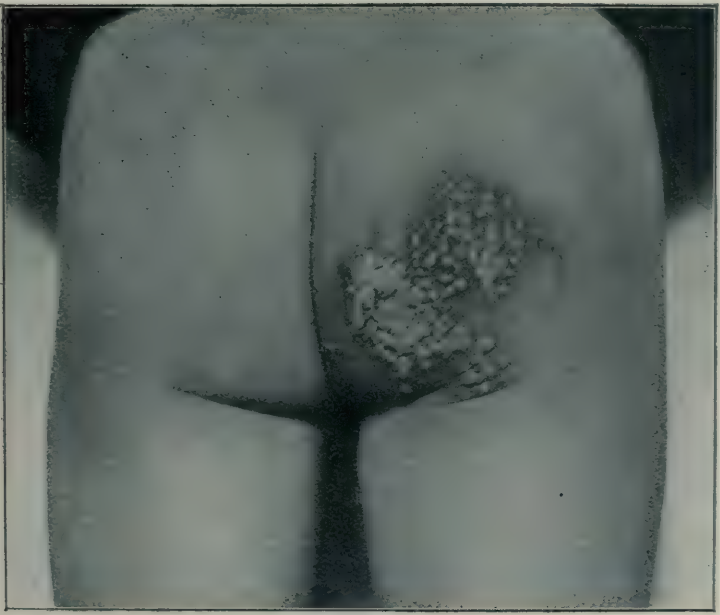

FIG. 2.—Herpes recurrens glutealis.

Dr. Sequeira's cases were a young lady aged 24 years, a married woman aged 28 years, and a professional man aged 40 years. In the first case the eruption was a small patch on the left buttock, and had recurred during the past two years with nearly every menstruation. In the second case the eruption was also on the left buttock, and not more than five or six vesicles. The eruption had occurred irregularly before menstruation during three years. In Case 3, the eruption had recurred two or three times a year for two years. His father and his father's family were gouty. Parkes Weber, in a discussion on "Dermatitis Herpetiformis" at a meeting of the Dermatological Section of the Royal Society of Medicine, recalled three cases of women aged 44, 57, and 63 years, who had attacks of herpes-like clusters on the gluteal region, and regarded these (wrongly, I think) as possibly minor forms of dermatitis herpetiformis.

In my own experience I have been unable to trace any connection between herpes recurrens and gout, or, indeed, any affection other than a common cold, and in all cases of recurrent herpes in an unusual situation apparently beginning in adult life I have been able to get a history of herpes labialis from childhood. I have no data as to the prognosis in these cases, but it would be interesting and important to know whether children eventually lose the tendency to these attacks. Sequeira mentions a case of herpes facialis in which the attacks ceased after removal of adenoids, but in two of my cases the first outbreak of the eruption followed an operation for adenoids.

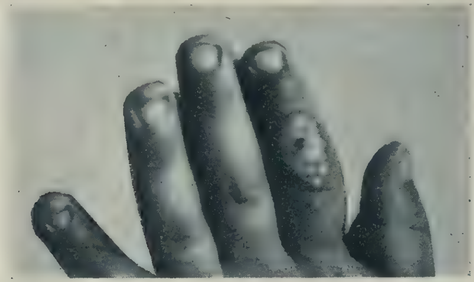

Fig. 3.—Herpes recurrens in digitalis.

Recurrent Herpes in other Situations.

As examples of recurrent herpes in situations quite away from mucous membranes I may mention some cases of herpes on the finger or thumb in infants and young children, of which I published a note in the 'British Journal of Dermatology' in 1909. Fig. 3 is such a case. Figs. 4 and 5 illustrate recurrent herpes, in one patient on the neck, in another on the wrists. In each instance there had been many recurrences upon the same area.

I know of no cure for these troublesome eruptions. One ought to remove or remedy any source of reflex irritation such as adenoids, dental trouble, eyesight defects, and intestinal worms in the case of

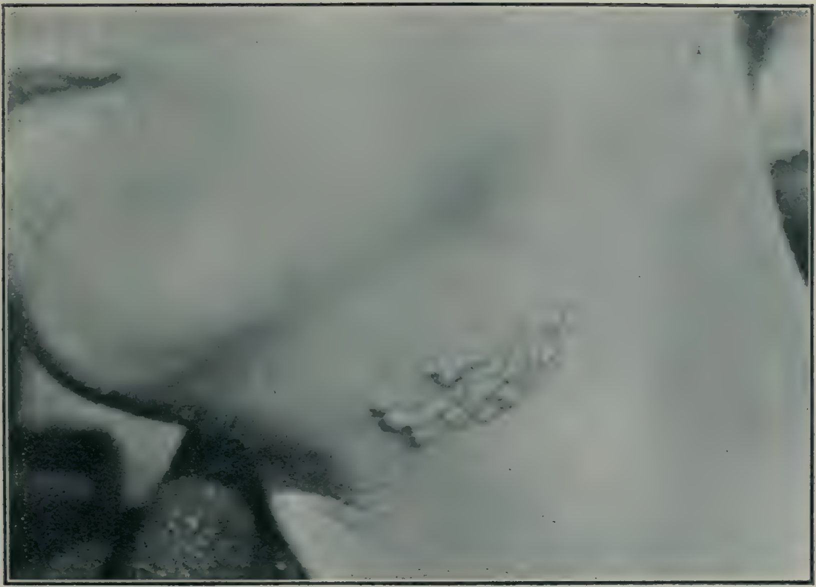

FIG. 4.—Recurrent herpes of neck.

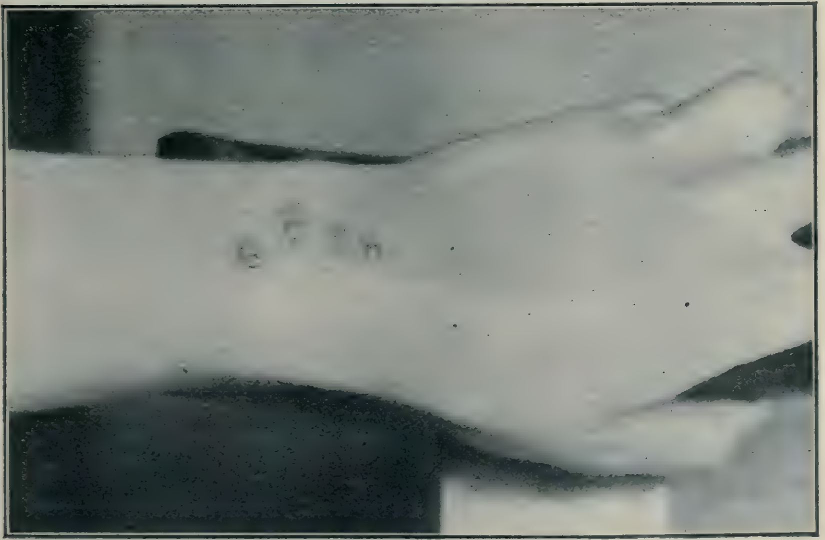

FIG. 5—Recurrent herpes of wrist.

herpes of the buttock. It has seemed to me that a dose of quinine (2–5 gr.) at the beginning of an attack will sometimes abort it, as also the local application of collodion before the vesicles have matured, or of calamine lotion if they have already formed.

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(2) *Id.*, "Recurrent Herpes of the Buttock," *ibid.*, 1911, xxiii, p. 322.

(3) Bertholle.—"Herpès Récidivant de la Peau," 'Gaz. des Hôp.,' 1876, xlviii, p. 859 (quoted by Dubreuilh as the first published case of herpes glutealis).

(4) Coriveaud.—"Cas d'Herpès Névralgique," 'Gaz. Méd. de Paris,' 1896, iii, p. 265 (quoted by Dubreuilh).

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(7) *Id.*, "De l'Herpès Récidivant de la Face chez les Enfants," 'Journ. de Méd. de Bordeaux,' 1907, xxxvii, p. 501–503.

(8) *Id.* and Dorso.—"Cas. d'Herpès Récidivant de la Peau." obs. vi, 'Ann. de Derm. et de Syph.,' 1901, ii, p. 1031.

(9) Feulard.—"Herpès Récidivant de la Fesse," *ibid.*, 1895, vi, p. 32.

(10) Parkes Weber.—'Proc. Roy. Soc. Med.,' 1915, viii, Derm. Sect., p. 219.

(11) Rall.—'Münch. med. Wochens.,' 1915, lxii, p. 396, abstr. in British Journal of Children's Diseases, 1916, xiii, p. 59.

(12) Rolleston, J. D.—"Herpes Facialis in Diphtheria," 'Brit. Journ. Derm.,' 1907, xix, p. 375.

(13) *Id.*, *ibid.*, "Herpes Facialis in Scarlet Fever," 1910, xxii, p. 309.

(14) Weill and Dufourt.—'Lyon Méd.' 1912, cxviii, p. 630, abst. in British Journal of Children's Diseases, 1913, x, p. 179.

A CASE OF ATELEIOSIS.

By F. Parkes Weber, M.D., F.R.C.P., and G. F. Stebbing, M.B., B.S.

Ateleiosis is the name given by Hastings Gilford to a kind of general and symmetrical dwarfism and infantilism, due to more or less complete bodily and mental arrest of growth and development. The dwarfism of ateleiosis is not mainly confined to the limbs (micromelia), as in achondroplasia, nor to the head, as in microcephalic idiots, nor to certain glandular or other viscera, as in cases of hypoplasia of the sexual organs (without general infantilism), or of the heart and large arteries; but it affects the whole body, trunk and limbs (microsomia).

Ateleiotic dwarfs differ from each other according to the period at which relative or absolute arrest of growth and development has occurred, that is to say, according to the stage of growth and development reached before more or less complete arrest took place. A good index of the stage of bodily development is furnished by skiagrams of the various long bones, especially of the hands and feet, showing persistence of epiphysial cartilages, etc.

Owing to long practice and continual experience in the simple matters of everyday life and in work requiring little skill or manual dexterity, an ateleiotic's mental development on superficial examination may appear to be considerably more advanced than it really is. In 1913 one of us published an account of two cases of ateleiosis * in which Dr. Reginald Langdon-Down kindly examined the patient's mental development by the Binet tests. One case was that of a woman, aged 20 years, but whose ossification and general development corresponded rather to that of a girl aged 12 years. Dr. Langdon-Down estimated her intellectual development as equivalent to that reached by the average child of about 13 or 14 years of age. The other case was that of a man, aged 45 years, but whose ossification and general development corresponded rather to that of a boy aged 9 years. Dr. Langdon-Down estimated his intellectual development as equivalent to that reached by the average child of 8 years of age. His head was rather large for the diminutive size of his body. The shape of his trunk, the undeveloped state of his sexual organs, the appearance of his neck (owing to the want of projection of the "pomum Adami"), and the high pitch of his voice were those of a child; but his expression, the wrinkles on his face, his attitude, his manner of speaking and his general behaviour were somewhat more like those of an adult. His mental condition was childish, but otherwise not abnormal. He could not read or write, but he earned a little money by light work in a glass factory. Dr. Langdon-Down, in his report, wrote: "The patient is interesting, as he was deliberately deprived of school instruction on medical advice, and, on the other hand, owing to his mature years, has long been subject to the influences of everyday life in town. The result of this environment has been to produce a superficial sharpness in one or two directions which might readily mislead one in judging of his intellectual development." In regard to the above-mentioned female ateleiotic, who was able to earn a little money at fur-machining, Dr. Langdon-Down remarked: "It is obvious that social status and

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* F. Parkes Weber, "Two Cases of Ateleiosis' BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, x, pp. 346–353.

environment may exercise considerable influence in these higher levels, and that standardisation becomes more difficult, owing to increasing complexity of development and individual divergencies."

That the occurrence of ateleiosis is of *endocrinic* origin, that is to say, due to some defect in the internal secretions of endocrine glands, is, of course, highly probable; but more data are required in this respect, as well as general increase in our knowledge regarding the action and interaction of the various endocrinic organs of the body. The sexual glands are naturally more or less hypoplastic and defective in ateleiotics. In both the abovementioned cases the thyroid gland seemed to be of abnormally small size. In the description of the male patient it was stated: "The texture of the skin, the facial complexion, the extreme fineness of the hairs of the scalp, and the small size of his thyroid gland, all suggest that there may be an element of hypothyroidism combined with the ateleiosis, but these features may be merely a part of the general infantilism." In regard to the condition of the pituitary gland in these cases we believe that very little is known, excepting that Roentgen-ray skiagrams of the base of the skull seem to show

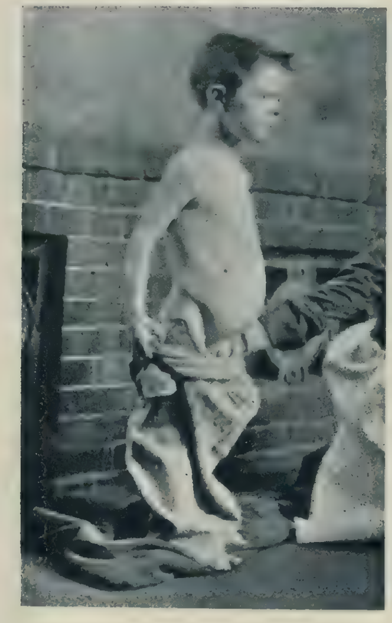


Fig. 1.

that the pituitary fossa is usually rather small than large. In the above-mentioned female case skiagraphic examination made it probable that the pituitary fossa was rather small, as it almost certainly also was in the male case.

Our present patient is a boy, Herbert A. D—, aged 16 years, whose size is not greater than that of the average child of 5 or 6 years. He was admitted to the Lambeth Infirmary on February the 9th, 1916. At that time his height was 43 ins. (109¼ cm.) and his weight was 48½ lbs. (22 kilograms). His prominent abdomen (Fig. 1) and relatively rather large head conform to the infantile type of proportions. He is physically strong and is able to run and walk normally, though he is habitually very slow in his movements and in conversation. There is no evidence of any thoracic or abdominal visceral disease; certainly no cardiac abnormality nor enlargement of the spleen or liver is present. The thyroid gland cannot be felt. The generative organs appear to be at the stage of development usual in a boy of about 4 or 5 years. There is no pubic, axillary or facial hair. The urine, when tested, was of specific gravity 1020, acid, and free from albumin and sugar. There is no pollakiuria nor apparently any polyuria. The patient has not to get up to micturate at night-time; there is no nocturnal enuresis nor any diurnal incontinence of urine. The pupils react to light and accommodation, and all his reflexes appear to be normal. There are no signs of rickets, nor do the various Roentgen skiagrams show the changes usually found in rickets. The patient has a snub-nose, with a sunken bridge, but he has no adenoid vegetations of the naso-pharynx, and there is no evidence of congenital (inherited) syphilis. The stage of ossification in his bones, as illustrated by the Roentgen-ray photographs of his hands (Fig. 2) and his feet (Fig. 3), corresponds roughly to that in a normal boy of 4 to 5 years old. The pituitary fossa, as seen in the skiagram (Fig. 4) of the base of the patient's skull, appears to be rather large than small, in relation to the small size of the whole body. As regards his tolerance for sugar, a daily dose of 3 ozs. of sugar, given for several days, produced no glycosuria.

The mother first noticed something wrong with the boy when he was 4 years old. He was then mentally backward. At present, as already stated, he is habitually very slow in his movements and in conversation. He has never been able to say his alphabet and he cannot read or write or do the simplest arithmetic, such as adding two figures together. He is able, however, to draw objects that can be recognised on a slate. He seems to know the value of money,

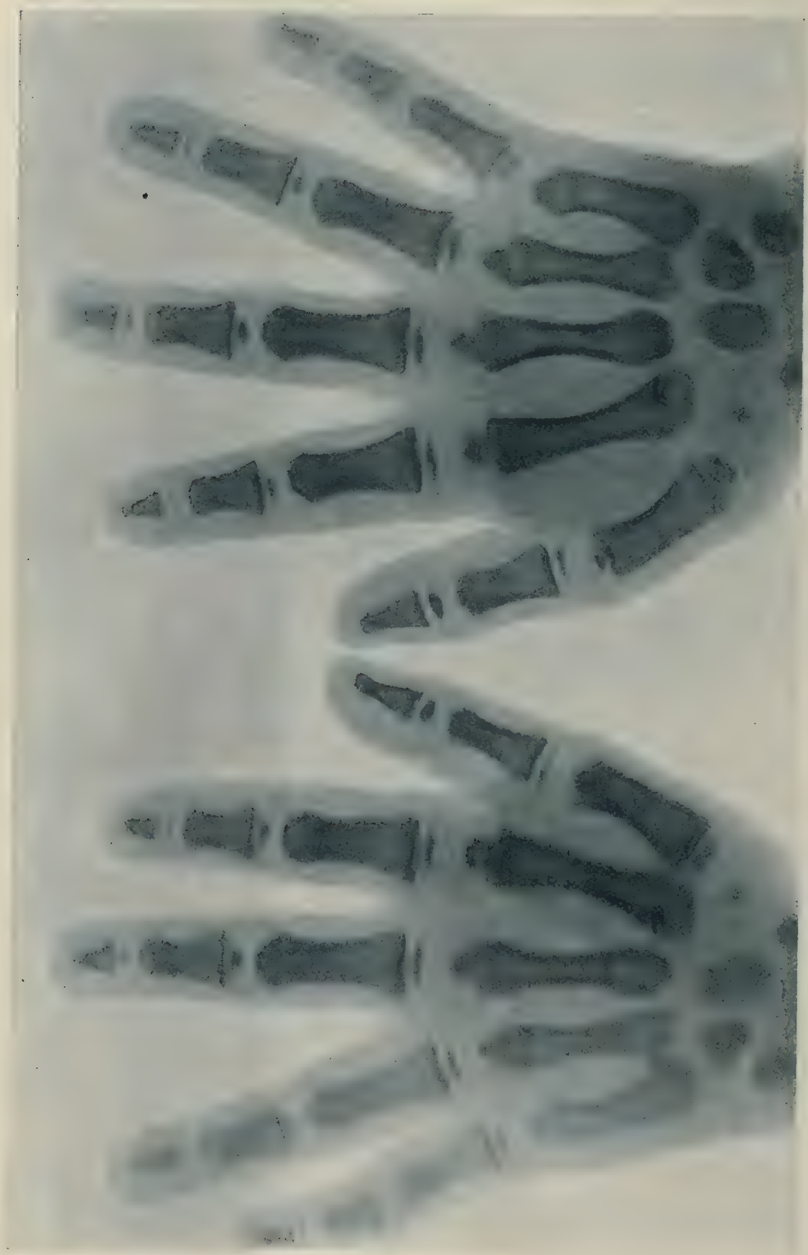


FIG. 2.

and whether the right amount of change has been given him when he buys anything. He has a certain amount of cunning; for instance, he asked once for a clay pipe to blow bubbles and was given a penny to buy one. He seemed to appreciate the value of what he got, and asked several other persons for a clay pipe, expecting the same result.

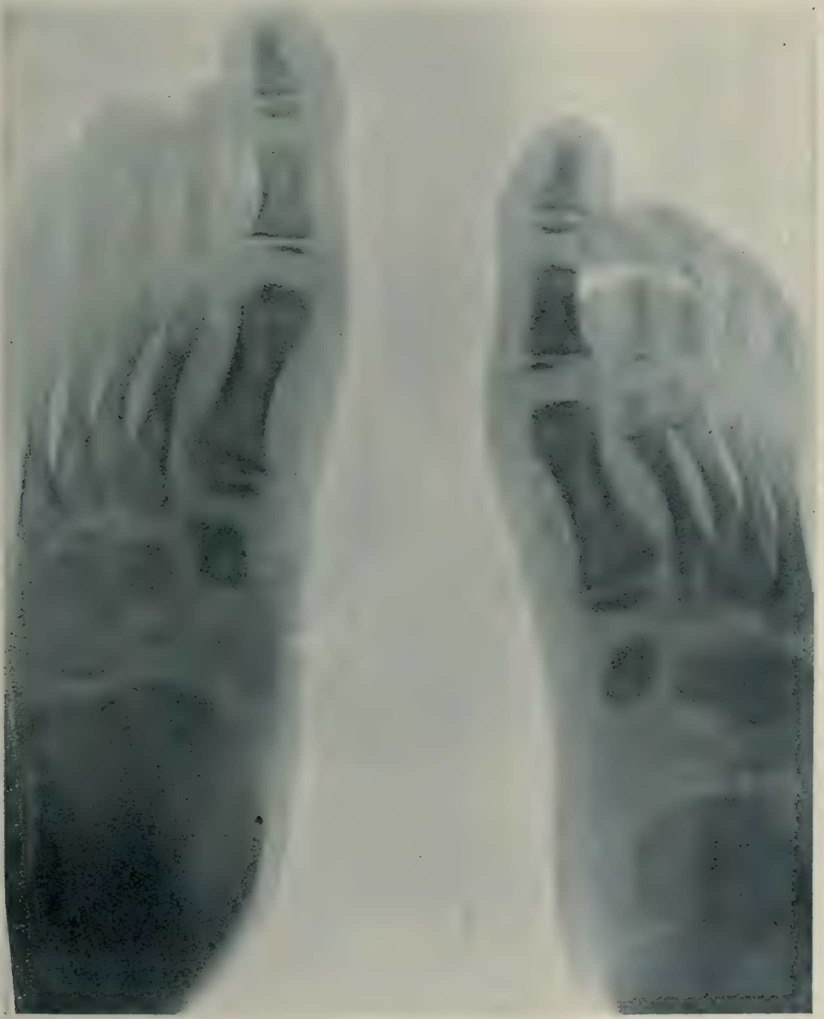


FIG. 3.

According to the mother, the patient is the eldest of a family of seven children. Of the remaining six, one died in infancy of pertussis; all the others are living and healthy and apparently normal, excepting one "who is a cripple and has a short leg from some unknown cause." The mother is not aware of the existence of any similar disease in either her own or the father's family.

The patient has been treated at several hospitals and has been to a special school. The mother thinks he has grown a little during the last year. Since admission to the Infirmary he has been given thyroid treatment for six weeks, without any resulting improvement; in fact, the treatment seemed to make him mentally worse. His mother thinks that he has gained a little in intelligence during the last month, which coincides with a period during which he has been treated with dried pituitary substance. No really decided change has, however, been produced.

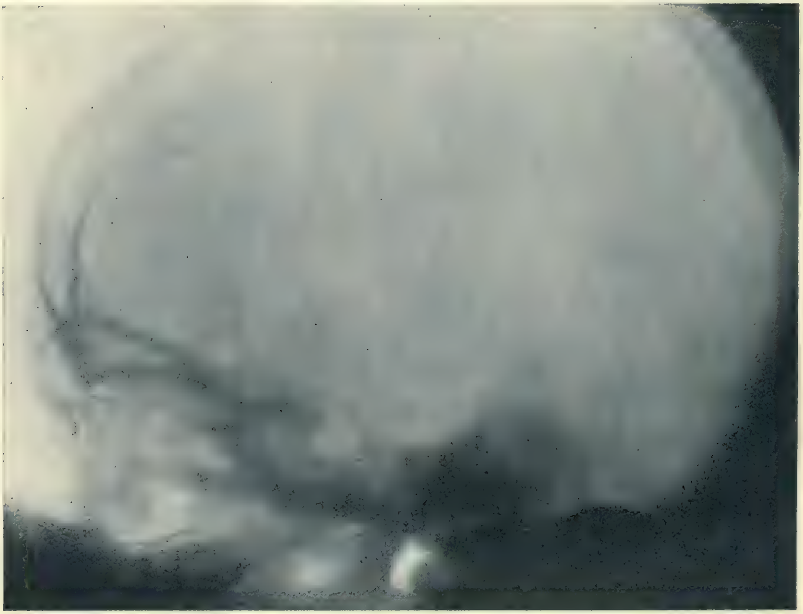


FIG. 4.

APPENDICITIS COMPLICATING PNEUMONIA.

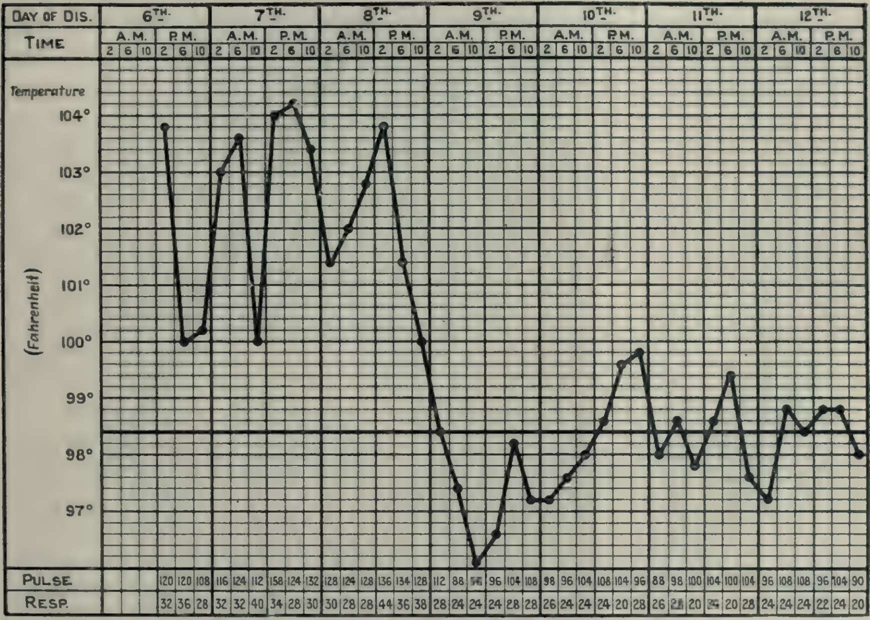
By J. Allan, M.D., D.P.H.

Appendicitis in children is more common than is generally supposed, and it is not unlikely that many of the so-called gastric attacks, frequently met with in children, are really appendicular in nature. Acute appendicitis at this period of life is a very serious and dangerous affection, and it is practically universally admitted that early operation is the best treatment. The case whose clinical history I am about to relate presents several features of interest, which can be better discussed after the various facts have been duly recorded.

A girl, aged 11 years, was admitted to hospital with acute abdominal symptoms, the medical man in attendance having made a diagnosis of acute appendicitis. The illness began six days before with sickness and vomiting, the child feeling out of sorts but not acutely ill. No history of indiscretion of diet was obtained. Two days before admission abdominal symptoms supervened. She complained of some abdominal pain, which was not very definitely localised, but which tended to be more severe in the right lower quadrant of the abdomen. The medical man in attendance reported that there had been marked tenderness over the appendix region during the twenty-four hours preceding admission. There had been no sickness or vomiting except during the initial stage of the illness, as already noted. The bowels had been somewhat loose, and once or twice slime had been noticed in the stools. The child had been running a temperature, and on the morning of the day of admission this reached 105·2° F. During the previous night she had been delirious. There was no history of cough, and no pain in the chest had been complained of. All symptoms were abdominal. On admission her condition was as follows : The child had an anxious expression, but there was no cyanosis, and the breathing, though a little rapid, was in no way distressed. She complained of acute abdominal pain, and when asked to indicate the spot of greatest severity pointed to the right iliac region. Inspection was negative, there being no limitation of movement noticeable at any one part. On palpation there was general abdominal tenderness, but over the appendix area this was certainly more evident, and the abdominal muscles in that region were distinctly on guard. Very marked tenderness was elicited on pressure over McBurney's point.

Percussion did not reveal anything of importance. The temperature was 103·8° F.; pulse rate 120; respirations 32. There was no sickness or vomiting. The urine was acid in reaction, rather concentrated, and showed a faint cloud of albumin. The child did not cough, and on examination of the lungs nothing abnormal was noted. The other systems were apparently healthy. All the signs and symptoms, subjective and objective, appeared to mirror an acute abdomen, and it was decided to explore the appendix region. This was done and the appendix was removed. The appendix was found inflamed, and on opening it blood-clot was discovered inside. The vessels in the appendix wall were thrombosed, and there were several thread-worms lying within the cavity of the organ. There was no ulceration of the appendicular wall, but the appearance gave one the impression of progressive inflammatory mischief rather than of subsidence of the inflammatory trouble. No other intra-abdominal organ was found implicated at the time of operation. It may be mentioned that anæsthetisation was carried out by a chloroform and ether mixture (C_1E_2), and no difficulty was experienced as regards its exhibition either during the period of induction or during the maintenance of the anæsthesia. Just after the operation the temperature registered 100° F., but at 6 a.m. on the following morning it reached 103·6° F. The child had a fairly comfortable night after the operation and slept a little at intervals, but she was delirious at times. On the day after the operation a very troublesome cough developed, apparently for the first time since the commencement of the illness. Breathing was a little more distressed, though the rate of respiration had not markedly increased. The lungs were carefully examined and signs of consolidation were discovered at each base, but on neither side was the area of consolidation very extensive. However, some impairment of the percussion note over the areas in question, with slight increase of vocal resonance and the presence of fine crepitations at the bases, seemed to suggest pneumonia. After events amply justified this conclusion. The child remained in a more or less delirious condition, the temperature curve kept high, never falling below 100° F., the breathing was laboured, and there was cyanosis at times. At 2 p.m. on the second day—that is to say exactly forty-eight hours after admission, the temperature was 103·8° F.; pulse rate 136; respirations 44. Thereafter the temperature fell steadily until 10 a.m. on the following day, when it was 96° F. The temperature curve is shown in the accompanying diagram. The patient had, in fact, a typical and unmistakable crisis, which occurred on the eighth day of the disease. Thereafter progress was rapid, and after an uneventful convalescence the child was discharged cured, just over three weeks after the operation, the abdominal wound having healed by primary union.

Here we have an example of appendicitis complicating pneumonia. There are cases in which lobar pneumonia may develop without the usual physical signs, and may so closely simulate appendicitis that it is diagnosed as the latter condition ; but on abdominal section inflammatory changes in the appendix are conspicuous by their absence. The case just recorded does not quite fall within this category, for in this case the appendix was undoubtedly inflamed and definite pathological changes had taken place in its walls. Whether the inflammation would have subsided if expectant treatment had been adopted it is impossible to say, but my impression from an examination of the organ after removal was that the inflammatory trouble was progressive, not retrogressive. If the case had been left in all probability ulceration would have occurred in the appendix, with perhaps gangrene and perforation, and an operation would have been imperative later, and in very much more unfavourable circum-



Four-hourly temperature chart of case of J. D—, aged 11 years.

stances. I have no doubt that in this case we had a secondary pneumococcal infection of the appendix following on an atypical pneumonia; atypical in so far as physical signs were absent until late in the disease. It is in such atypical cases that it is so difficult to differentiate between lobar pneumonia and appendicitis in children, although one generally finds that it is during the first day or two of the disease that such mistakes are likely to arise. It should be remembered that pneumococcal infection of the lungs may exist for days without the occurrence of demonstrable physical signs, and in not a few cases the infection may run its entire course without going on to consolidation. It may be asked if there are no points for differential diagnosis between these two conditions, and it must be admitted that one has to rely more on general data than on specific differential diagnostic tests. It is well when approaching a possible case of appendicitis in a child to bear in mind the possibility of lung infection, and it would be a good plan to examine the chest thoroughly and repeatedly in all such cases. This is especially true if cough is present. Some pædiatric clinicians believe that prolonged expiration is an early sign in pneumococcic infection of the lung, but this cannot be relied on. The relation of the temperature curve to the pulse and respiration rates should be carefully examined. Perhaps the examination of the urine for the diminution or disappearance of the chlorides might help, as some observers consider the absence of, or marked dimunition in, the chlorides in the urine to be almost pathognomonic of pneumonia. All facts should be carefully weighed, and these are cases in which consultation between the physician and the surgeon should prove invaluable. Whatever be done no doubt mistakes will occur, and perchance the enthusiastic surgeon may open the abdomen for inflammation of the appendix (when that organ is not at fault) during the progress of a lobar pneumonia. In my opinion the opportune surgeon is less worthy of condemnation than the expectant physician. In the one case the patient may be submitted to an unnecessary operation, no doubt a truly regrettable incident, but on the other hand delay may allow of perforation to take place, and the resulting peritonitis may compel operative interference when it is too late. Even if recovery takes place, the prolonged and tedious convalescence after operation for septic peritonitis, and also the undermining of the patient's health, are, to my mind, strong points in favour of early operation. The "wait and see" policy is, in my opinion, dangerous, and I should feel much inclined to say, "when in doubt, operate." If one may judge from the present case, the exhibition of an anæsthetic in the presence of pneumococcal infection of the lungs is not fraught with much extra danger. In submitting such cases to careful and judicious consideration, one must not overlook the fact that the two conditions may co-exist, as in the case I have just quoted. It seems to me that while the treatment of appendicitis in children by early operation is pretty generally admitted, there still remains much to be done from the point of view of diagnosis, which is by no means perfect. This offers a field for further painstaking and assiduous investigation and study, and all points which tend towards the elucidation of this important problem, viz. the perfecting of the early diagnosis of appendicitis, should receive at the hands of the medical profession most careful examination, and should command the attention of all scientific workers in this branch of medicine.

Royal Society of Medicine.

OTOLOGICAL SECTION.

November the 19th, 1915.

Bony Sequestrum, believed to be the Annulus Tympanicus, removed from the External Meatus of an Infant, aged 2 years 9 months.—Mr. H. L. Whale.—The child had suffered continuously from otorrhœa since the age of 14 months.

Keratosis of the Auditory Meatus.—Mr. W. Stuart-Low.—The patient was a girl, aged 8 years, who had had a discharge from the left ear for over a year. Two months ago white spots began to appear at the lowest and outermost part of the meatus; these gradually coalesced and spread round the passage, forming a tough white ring. Dr. Wyatt Wingrave had examined specimens under the microscope, and described it as an irritative keratosis, similar to what was not uncommonly met with on the tonsils, and said to be due to the presence of a leptothrix. He thought any true parasitic growth could be completely excluded in this case.

Cartilaginous Overgrowth after the Radical Mastoid Operation.—Mr. W. M. Mollison.—The patient, aged 15 years, had suffered from chronic otorrhœa for years, and had had several operations. Two years ago a radical mastoid operation was performed on the left ear. A few months later a cartilaginous nodule had appeared at the concho-meatal junction, and had grown to its present size slowly. Suppuration had continued in spite of operation, and now the mass of cartilage was obstructing the meatus.

Case of Audible Tinnitus.—Mr. W. M. Mollison.—The patient, a boy, aged 9 years, complained of a "ticking" in his ears; his mother noted that she could hear the noise herself. There was an easily audible ticking in the left ear, very clearly heard through an otoscope; it was not synchronous with the pulse, and was much less audible when the boy's mouth was open. A similar noise was to be heard in the right ear, but much less loud. The boy had retracted membranes, and large tonsils and adenoids. The noise was presumably due to irregular contractions of the tensor tympani.

Note.—February the 16th. Since the last meeting the boy had had his tonsils and adenoids removed, but the tinnitus continued. His tubes had been inflated without any alteration in the tinnitus.

DERMATOLOGICAL SECTION.

December the 16th, 1915.

Recurrent Herpes Zoster of the Face with Hemiatrophy.—Mr. Wilfred Trotter.—The patient was a girl, aged 11 years, with a history of repeated attacks of herpes on the right side of the face since infancy. The attacks began when she was aged 1 year, and had recurred every two or three months since; each attack was preceded by headache and fever, but local pain was not a marked feature. All attacks previous to the present one had involved only the second division of the fifth cranial nerve, the lesions being limited to the centre of the right cheek and right side of the nose. In this present attack, however, the lesions present were two in number, distributed over the areas of the buccal and submental branches of the third division of the fifth nerve. Two other points were of interest: first, very marked pitted scarring was present at the site of previous lesions; and, secondly, there was marked atrophy of the cheek on the affected side. There were no appreciable sensory changes in the skin of the face.

The child had had measles, chicken-pox, and scarlet fever, but otherwise had been in good health. There was no history of tuberculosis or syphilis in the family. The mother had had thirteen other children, who were all alive and well, and had had no miscarriages. There was no evidence of any disease—no enlargement of tonsils, no adenoids, and no ear trouble; the teeth and mouth were in good condition and the child had never had any eye trouble.

Cases of this type were of interest from two points of view: first as to ætiology, and, secondly, as to nomenclature. In this case the evidence appeared to point to the lesions being in the region of the Gasserian ganglion and of an inflammatory nature. As regards nomenclature, Mr. Trotter believed the case to be a true zoster, and that it differed entirely from the cases of recurrent, irregularly bilateral herpes which occurred around the mouth. The case was sent to him as possibly due to some intracranial trouble.

Case of Morphœo-sclerodermia with recent acute symmetrical involvement of the Soles of the Feet.—Dr. George Pernet showed a girl, aged 14 years, who was first seen at the West London Hospital on July the 31st, 1914, for morphœic manifestations on the outer side of the right thigh, quite typical, but with a very diffuse lilac discoloration extending for some distance around (instead of the usual ring). Thickening followed, and the sclerodermia had progressed on the limbs in a symmetrical manner. She was now brought forward again on account of an acute symmetrical involvement of both soles, which was observed on November the 12th last. The affected areas were at that time pale, and somewhat swollen and œdematous, with a well-defined purple-lilac border. They were very tender and painful to pressure. There was some hyperidrosis of the feet. Since then the pain on pressure had subsided to a great extent, and so had the swollen condition, giving place to a certain amount of toughness of the parts.

Dr. Pernet considered the condition of the soles was part and parcel of the morphœo-sclerodermic process. The patient had been on small doses of thyroid on and off since she was first seen, but the sclerodermia had advanced notwithstanding.

Philadelphia Pediatric Society.

February the 8th, 1916. Dr. JOHN F. SINCLAIR, President.

Dr. CHARLES MACFIE CAMPBELL, of Johns Hopkins, delivered the annual Packard lecture.

He said that the intensive work done during the last twenty years on the functional nervous disorders of the adult had brought about a marked change of attitude in dealing with them. There was less inclination to attribute these disorders to hypothetical intoxications, nor was a mere reference to the basis of constitutional psychopathic inferiority sufficient; the aim was now to find the meaning of each disorder, and its *rôle* in the adaptation of the individual to the environment.

The unembarassed study of the real biological unit led beneath the surface to other dynamic factors, to more elemental but deeply rooted forces which it was usual to ignore.

Neurotic symptoms to a large extent found their explanation in these underlying trends, and among the determining factors of the symptoms a prominent place must be given to the attitudes, the problems, and the conflicts of childhood.

The child might have an unsuspected complexity of forces determining his behaviour. The recognition of this complexity helped to the understanding of some of the nervous manifestations of childhood, which otherwise would be unintelligible. The child's life at an early age might show indications of conflicts which tradition only admitted in the adult.

It might seem rather revolutionary to allow to a child of tender years an emotional life of such complexity.

In the treatment it was important to recognise the real factors involved and not to be satisfied with vague hypotheses as to toxic processes or with references to constitutional instability.

In speaking of the neurotic utilisation of symptoms, Dr. Campbell said that symptoms might arise in various ways; they might be the result of present compromise, or expression of a nervous instability which needed no special conflict to elicit them, or they might even be the product of some casual somatic disorder; once they had arisen they might serve a certain function, and be made use of for the adaptation of the individual to the environment.

Among the gastric symptoms presented by neurotic children vomiting was not uncommon, and in some cases this symptom formed a very serviceable help to the child for the attainment of his ends.

Headache was another symptom which the child found easily at his disposal in the face of unpleasant situations.

Of the nervous manifestations of childhood none were more alarming than the various attacks which were liable to occur. The diagnosis of epilepsy was often difficult, and it was well to keep in mind the possibility that an attack, even though presenting some of the features of an epileptic equivalent, might really form part of a subtle mechanism by which the child attained a desired goal.

The fact that a symptom in some cases might be utilised in a certain way or might indicate certain conflicts did not justify the conclusion in all cases that it was so utilised and must always indicate such conflicts.

In the origin of neurotic symptoms in general one must depend on the researches of the pædiatrist, employing biochemical and physiological methods.

The pædiatrist, by the application of accurate methods to the study of these early symptoms, might contribute to psychopathology a much clearer formulation of the basis of some types of nervous constitutions.

Abstracts from Current Literature.

Diseases of the Respiratory System.

Statistical study of respiratory diseases as a factor in the causation of infantile mortality (*'Am. Journ. Obst.,'* 1916, LXXIII, *p.* 362). —**W. C. Woodward.**—In the registration area of the United States in 1913 respiratory diseases caused 15·85 per cent. of the total mortality in the first year of life. As a factor in infantile mortality this group was exceeded in importance only by pathological conditions peculiar to infancy (33·16 per cent.) and diseases of the digestive system (27·12 per cent.). The mortality for respiratory diseases in the first year of life constituted approximately a quarter of the total mortality from these diseases at all age periods taken together. Bronchitis and pneumonia together caused 96 per cent. of all deaths in the first year due to respiratory diseases. The percentage of infantile mortality in individual states and cities ranged from 10·87 per cent. to 22·83 per cent. Deaths from respiratory diseases occur to a greater extent during the third week of life than during any other weekly period.

J. D. Rolleston.

The prevention of respiratory disease in early life (*'Arch. of Ped.,'* 1916, XXXIII, *p.* 81).—**R. S. Haynes.**—Dust and smoke and overcrowding should be avoided as much as possible. Early care of children suffering from pertussis or measles and careful isolation of contacts should be insisted upon, and careful disposal of the discharges at the mouth, throat, and nose in those already sick. The room in which anyone has been ill with respiratory trouble should be thoroughly cleansed with soap and water, sunlight, and fresh air. Good food and warm clothing are essential, and waterproof material in wet weather. Cold sponging helps to harden children. Adenoids and enlarged tonsils should be removed and constipation avoided. The teeth should receive attention and a mouthwash is often desirable.

F. R. B. Atkinson.

Removal of an open safety-pin, point up, from the left bronchus (‘*Cleveland Med. Journ.*,’ 1915, xiv, *p.* 517).—A boy, aged 7 years, inhaled an open safety-pin. He was seized with a paroxysmal cough, and became cyanotic. X rays showed an open safety-pin in the trachea just below the larynx. The next day, under suspension laryngoscopy, the pin could not be seen in its position on the plate, but after use of the bronchoscope its position was located at the bifurcation of the trachea. The following day tracheotomy was performed under ether, and the pin was removed by using a Killian tube. The patient was able to leave the hospital on the fourth day J. D. Rolleston.

Partial atelectasis with capillary bronchitis and a temperature of 110° F. (‘*Amer. Journ. Obst.*,’ 1916, lxxiii, *p.* 372).—**A. Hymanson.** A first child of healthy parents was born at full term on May 1. It was born asphyxiated, and remained so for two hours, but was finally resuscitated. During the first day of life its temperature rose to 102° F., and on the third day to 105° F. During the next fortnight it fluctuated between 98° and 103° F., and respirations were from 40 to 70. Expiration was hardly audible at the base and apex of the lungs, and there were scattered *râles* in the chest. On July 30, when one month old, the baby was in a convulsive state. The rectal temperature, taken by three different thermometers, was from 109·6° to 110° F. A colon irrigation, at a temperature of 85° F. gradually cooled to 65° F., was given for six minutes; the radial arteries and head were rubbed with ice, and finally a bath was given at a temperature of 85° F., gradually cooled to 70° F., and brandy and aromatic spirits of ammonia were administered. The temperature slowly dropped to 99° F., and gradual improvement took place, but three weeks later the pulmonary signs became worse, enteritis developed, and death took place on August 23.
J. D. Rolleston.

Septic bronchitis, pleurisy, and pneumonia treated by inoculations suggested by direct hæmolysis (‘*Lancet*,’ 1915, ii, *p.* 279).—**A. Cassels Brown** saw the patient, a boy aged 10 years, for what appeared to be a septic tonsillitis. The history given was that he had caught a cold on his way home from school two days previously. There were a quickened pulse, a slightly elevated evening temperature, and a good deal of hard cough, with some muco-purulent expectoration. On auscultation there was a certain amount of bronchial catarrh noticeable, which more particularly affected the right lung. There were also slight enlargement and tenderness of the cervical glands on both sides. He was treated by various antiseptic applications to the throat and given a mild febrifuge and expectorant mixture. No improvement followed, and it was found that the scattered exudations on the tonsils had coalesced, giving an appearance uncommonly like diphtheria. A swab from the throat was sent for examination and diphtheria antitoxin (2000 units) was given, this dose being repeated on the following day. Next day the exudation had disappeared. The report of the throat swab was negative for diphtheria bacilli. The boy's condition seemed worse, and a patch of broncho-pneumonia was now noted at the base of the right lung. The purulent expectoration had very much increased by this time, and the bronchial tubes at the base, especially of the right lung, were dilated and choked with secretion. The case was seen in consultation, a diagnosis of septic bronchitis, broncho-pneumonia, and pleurisy was made, and vaccine therapy was thought advisable. A tube of blood was taken and sent to Dr. Lyon Smith, who sent an antigen, 1 c.c., of which contained sensitised strepto bacilli 20 millions, sensitised staphylococci 100 millions, bacillus coli 5 millions, micrococcus catarrhalis 10 millions, sensitised pneumococci 30 millions, bacillus septus 20 millions. The injection of 0·1 c.c. was followed in thirty-six hours by a very marked reaction, the temperature mounting suddenly to 104·6° F. This rise of temperature was accompanied by the most copious expectoration and a certain amount of fluttering of the pulse. The patient was ordered ½ oz. of port wine every four hours and was given frequent inhalations of oxygen. He was also sponged down with tepid water. Two days after the first injection he was given a similar injection with similar results. Two days later an injection of half the dose was given, and there was no reaction, delayed or otherwise, and the patient was beginning to look and feel much better. This treatment was persevered in, and after a long and tedious convalescence recovery has taken place. H. Lyon Smith discusses direct hæmolysis: a test for bacterial toxins and for estimation of dosage in vaccine therapy.

J. Allan.

The diagnostic significance of D'Espine's sign (*'Am. Journ. Dis. Child.,'* 1915, x, *p.* 183).—**H. F. Stoll.**—D'Espine's sign, or whispered bronchophony in the interscapular space first described by him in 1907 as diagnostic of enlargement of the bronchial glands, is best elicited when the arms are folded well across the chest, with the head strongly flexed and the patient sitting erect. Firm pressure should be made with the stethoscope as the patient repeats "three thirty-three." Young children may be made to say the word "tree." The enlargement of the glands may be due to malignancy, leukæmia, Hodgkin's disease, syphilis, or any infectious disease of the lungs. The presence of the sign in the delicate child is exceedingly suggestive of tuberculous involvement of the tracheo-bronchial glands (*cf.* British Journal of Children's Diseases, 1913, x, p. 179).

J. D. Rolleston.

Asthma in children: its relation to "egg-poisoning" (*'Boston Med. and Surg. Journ.,'* 1914, clxxi, *p.* 708).—**F. B. Talbot** records six cases in children aged from 5 to 8 years to prove that asthma is a manifestation of anaphylaxis, *i. e.* a local manifestation in the lungs. In a certain number of children asthma may be due to egg-poisoning (*vide* British Journal of Children's Diseases, 1913, x, *p.* 228). Scarification of the skin and inoculation with egg-white shows whether egg albumin is the specific cause of the asthma. Many, if not all, cases of egg asthma may be immuned to egg-white by feeding them with gradually increasing doses of egg albumin in capsules.

J. D. Rolleston.

Large pin in the lung removed by operation (*'Riv. di clin. pediat.,'* 1915, xiii, *p.* 9).—**M. Fiorini** and **F. Rossi** report the case of a girl, aged 8 years, who had "swallowed" a pin five years previously and had since suffered from recurrent attacks of broncho-pneumonia, constant irritating cough with purulent and sometimes fœtid expectoration. There were no tubercle bacilli present. Radioscopy showed a large pin, 7 cm. long, in the left lower lobe. Resection of 6 cm. of the eighth and ninth ribs posteriorly between the vertebræ and posterior axillary line was performed under chloroform in a sitting posture. The pleura not being adherent the wound was plugged with iodoform gauze and perfect adhesion obtained after eight days. Pneumotomy was then performed under slight narcosis in a sitting posture, the thermo-cautery being first used and then exploration with the finger, which reached a purulent cavity and felt the head of the pin, which was extracted with a calculus forceps, the remainder of the pin, about 4 cm., was expelled in two pieces by cough. The patient left her bed on the eighth day, cicatrisation of wound being completed in three months, leaving her in a state of florid health. VINCENT DICKINSON.

Can pneumonia in children be aborted? ('*New York State Journ. Med.*,' 1915, xv, *p.* 445).—**T. W. Clarke** answers this question in the affirmative, and gives his experiences with hexamethyleneamine employed for this purpose. He has found that the temperature begins to fall within a few hours of the starting of the drug, and in from twenty-four to forty-eight hours the patient has been well. In giving the drug, care must be taken that it is given in plenty of water or milk, and that as much water as possible is taken besides. Even with the greatest care one will at times get strangury or slight hæmaturia. When this occurs it has been his custom to discontinue the drug and give sodium bicarbonate, and, beyond a few hours' discomfort, no untoward effects have been noted. In cases where empyema has developed the drug seems to have little or no effect.

J. ALLAN.

Preliminary report on pneumonia in children, with special reference to its epidemiology ('*Amer. Journ. Med. Sci.*,' 1916, CLI, *p.* 14). —**G. R. Pisek** and **M. C. Pease.**—The paper is based on a study of 1000 cases of lobar and broncho-pneumonia admitted to the Babies' Ward of the New York Post-Graduate Hospital in the last nine years. The children were all under 6 years of age. The mortality was 34·3 per cent. Lobar pneumonia is much more frequent in the first two years of life than is commonly supposed, and is always due to the pneumococcus, while a broncho-pneumonia may be due to a variety of organisms, such as the streptococcus or *B. influenzæ*, occurring alone or as a mixed infection. If pneumococci are present in broncho-pneumonia they are usually one of a group of various organisms, or at least are of low virulence. The pneumococcus may be divided into four general groups (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, p. 80), each being made up of many races which are closely related. This division is of the greatest importance from the standpoint of treatment. J. D. ROLLESTON.

The diagnosis of pneumonia ('*Clin Journ.*,' 1915, XLIV, *p.* 297).—**J. A. Lindsay.**—Pneumonia in the young child often presents the following features: (*a*) The onset is often characterised by the absence of an initial rigor, and by the presence of headache, vomiting, convulsions, and often by "meningism." (*b*) The course of the temperature is often irregular. (*c*) Sputum is usually absent. (*d*) Pleuritic pain is often slight. (*e*) The physical signs in the chest are often obscure. (*f*) The subjective sense of dyspnœa is less than in the adult, while the respirations are often more frequent. (*g*) The course of the case is often irregular and atypical.

J. D. ROLLESTON.

Friedländer's pneumonia; recovery ('*Interstate Med. Journ.*,' 1915, XXII, *p.* 1133).—**C. H. Dunn** reports the case of an infant, aged 14½ months, who was the subject of lobar pneumonia. The chest was twice explored for empyema, but on both occasions the needle entered the lung and no fluid was found. A little fibrinous material was withdrawn, which on each occasion gave a pure culture of a gram-negative capsulated bacillus. The child made a good recovery. Very few cases of Friedländer's pneumonia have been recorded in children, and none, so far as the writer is aware, in infants. It is generally regarded as a fatal form of the disease.

T. R. Whipham.

Foreign body pneumonias (*'Arch. of Ped.,'* 1915, xxxii, *p.* 881).—**A. Caille** records three cases with skiagrams. Case 1.—Boy, aged 2 years and 10 months, who had been ill for four weeks with chills, fever, vomiting, cough and dyspnœa. The blood showed a moderate leucocytosis and increase of the polymorphs. There was dulness over the entire right lung posteriorly and in the right axilla. The breath sounds and voice were indistinct at the base, aspiration was negative. The spasmodic character of the cough, the expectoration of pus in an acute lesion in the absence of the amphoric breathing characteristic of a cavity, suggested a foreign body. A skiagram of the right lung showed a large tack, which was removed by the aid of the bronchoscope after it had been in the lung about five weeks. Case 2.—Girl, aged 2 years. Pneumonia one year ago. There was no resolution after the attack, but a spasmodic cough persisted. The right lung was found to be solid. A skiagram showed a large nail in the left bronchus and partly in the trachea. Attempts to remove the nail with the aid of the bronchoscope failed until a low tracheotomy had been done. Death took place from extensive pneumonia three days later. The nail had probably been in the lung for over a year. Case 3.—Boy, aged 4 years. Three days before admission he was said to have swallowed a shawl pin. On admission the lungs were normal, and there was no cough. A skiagram showed the pin in the left bronchus and lung. An attempt to remove it with the aid of the bronchoscope failed, and for two weeks the child had irregular fever. The day before the one fixed for a second operation the child had a severe spasmodic coughing spell and coughed up a brass shawl pin 2½ in. long, which had been in the lung forty-three days without causing local inflammation. Caille concludes that (1) all cases of unresolved pneumonia and cases of atypical pneumonia should be X rayed; (2) all foreign body cases should be reported in the lay press as a warning to those in charge of children to keep things out of their reach. J. D. Rolleston.

Influenza and grippe in infants and children (*'Med. Record,'* 1916, lxxxix, *p.* 226).—**C. G. Leo-Wolf** considers there are two distinct entities, the latter embracing what are called colds. The former is caused by Pfeiffer's bacillus, the latter by numerous organs not the bacillus. A description of influenza is given and compared with the symptoms of "grippy colds." Special attention is drawn to the complication of otitis media in grippy infections. In the treatment of the latter in rhinitis the author relies on instillations of argyrol and also of adrenalin. In bronchitis and laryngitis he recommends compresses and packs and the bronchitis kettle. No drugs are given internally except to resist complications.

F. R. B. Atkinson.

Broncho-pneumonia in scarlet fever (*'Thèses de Paris,'* 1914–15, No. 89).—**M. Besse.**—Broncho-pneumonia is not rare in scarlet fever. It occurs in malignant cases in young children, especially in those with chronic lesions of the larynx or bronchi. It may develop at any stage of the disease. It is frequently associated with purulent pleurisy. The prognosis is bad. In three-quarters of the cases it is fatal. The younger the case the higher the mortality. The thesis contains the history of 27 cases, 25 in children aged from 5 months to 8 years, and 2 in adults. Twenty-two died and 5 recovered. J. D. Rolleston.

Respiratory complications of scarlet fever (*'Thèses de Paris*, 1914–15, *No.* 80).—**M. Toupance.**—These are much less rare than the text-books state. Severe *laryngitis* due to streptococci occurs in 5 per cent. In young children, in whom it is most frequent, it causes superficial but extensive lesions and is almost always fatal. After 7 years of age the lesions are more limited and deeper. Recovery may take place either spontaneously or after operation. *Bronchitis*, which occurs in from 2 to 6 per cent., is the commonest and mildest respiratory complication of scarlet fever. When it occurs at an early stage it forms part of the scarlatinal eruption; at a later stage it sometimes heralds a relapse, but it should always suggest the onset of measles. *Broncho-pneumonia* is seen in from 1 to 2½ per cent. of all cases of scarlet fever. It usually occurs in hospitals and in young children with a severe infection of the naso-pharynx. It may follow bronchitis, or be of septicæmic origin. The streptococcus is the causal agent. About half the cases are fatal. *Pneumonia* occurs in less than 1 per cent. It may mark the onset of scarlet fever, and the two diseases may run their course without any effect on each other. Relapses of scarlet fever, however, are more frequent in such cases. When pneumonia occurs during the period of eruption or desquamation, it tends to affect the apex of the lung and often assumes a torpid form which is all the more difficult to recognise, as a pleural effusion frequently accompanies it. Pneumonia is a grave complication and is fatal in about 60 per cent. The later it occurs the more serious it is. The streptococcus is the usual micro-organism present. The pneumococcus is rarely found, and only in late cases. *Pleurisy* occurs in about 0·8 per cent. of scarlet fever cases. In only one-third of the cases does it remain sero-fibrinous (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, *p.* 133). *Purulent pleurisy* assumes several clinical forms, viz. typical generalised empyema following pneumonia, a torpid form, a latent form in young children suffering from broncho-pneumonia and interlobar pleurisy, but all are characterised by the rapidity of the pus formation, the abundance of the effusion, and the gravity of the general condition. The prognosis is grave; the mortality is about 40 per cent. The causal agent is usually the streptococcus in *sero-fibrinous pleurisy*. The effusion may be associated with a focus of pulmonary engorgement or result from propagation from adjacent pericardial lesions, or, lastly, be of tuberculous origin. There is no antagonism between scarlet fever and tuberculosis. Scarlet fever may sometimes have no action on tuberculosis, or, on the other hand, light up old tuberculous lesions and cause a generalised tuberculous infection, especially in young children. In exceptional cases an old tuberculosis may react on scarlet fever by means of chronic hepatic lesions of tuberculous origin. Scarlet fever then assumes a malignant and rapidly fatal course.

J. D. ROLLESTON.

Case of broncho-pneumonia complicated by hemiplegia (*'Lancet,'* 1915, II, *p.* 285).—**V. M. Métivier.**—The patient, a girl, aged 1¾ years, had conjunctivitis and a cough, but there were no signs in the chest. Two days later there were marked signs of bronchitis, and towards the evening of the following day symptoms and signs of broncho-pneumonia were present. The illness proved a severe one, and ten days after the commencement the left arm and leg were found to be paralysed, and the reflexes on that side of the body were increased. The child made a good recovery, in spite of an attack of measles, which retarded the improvement of the lung condition. The hemiplegic symptoms are clearing up well. The cause of the hemiplegia was most likely cerebral thrombosis. Many factors were at work to produce it. The cerebral circulation must have been very much hampered when the illness was at its worst. Owing to the destruction of very large numbers of leucocytes, fibrin-forming bodies would be set free in large numbers. The patient was being fed chiefly on milk, which contains a fair percentage of calcium. The endothelium of the small vessels was liable to be damaged by circulating toxins. The author has found that small frequent doses of ammonium carbonate and tincture of belladonna are invaluable in broncho-pneumonia, in lobar pneumonia in children and babies, and in pneumonia complicating pertussis. These two drugs are well tolerated by babies and young children. They act primarily as respiratory stimulants. Nux vomica is apt to cause convulsions if given in doses large enough to help respiratory and cardiac mechanisms. Ipecacuanha is useful in the very early stages. It should be avoided generally when there are definite signs and symptoms of pneumonia. Potassium iodide and ammonium chloride are most effective in getting the bronchitis to clear up and the consolidation to resolve.

J. Allan.

Accidental pneumothorax during tracheotomy, with report of a case (*'Ann. of Otology,'* 1915, xxiv, *p.* 303).—**S. Iglauer.**—This accident is rare. The author's case was a male child, aged 23 months. A diagnosis of foreign body in the air-passages was made, and, the child being cyanosed, a low tracheotomy was done without an anæsthetic. The child struggled continuously and pneumothorax of the right side resulted. Under careful treatment the child recovered, the lung having re-expanded by the twenty-seventh day. No foreign body was discovered, the real cause of the trouble probably being acute subglottic laryngitis. Macleod Yearsley.

Clinical notes on the radiography of the thorax in children (*'Edin. Med. Journ.,'* 1915, ii, *p.* 326).—**J. S. Fowler** considers that the value of radiography in the clinical diagnosis of lung disease in children is probably not sufficiently widely recognised. He places great reliance on it, and does not now feel justified in forming a positive conclusion in a doubtful case, even when the ordinary physical signs are absent, without an X-ray examination. For various reasons screening is unsatisfactory in children; a radiograph should be made, and the appearance compared with the physical signs. As a rule the changes seen in the plates agree with, or at least do not contradict, the physical signs. Frequently they are more marked than the signs lead one to anticipate; the reverse of this—marked physical signs with few radiographic findings—is much more rare. The author gives the clinical histories of several cases to illustrate the usefulness of this method of diagnosis, and groups them under the headings (1) miliary tuberculosis of the lungs; (2) pleural exudates. J. Allan.

The value of the X ray in intra-thoracic lesions in children (*'Arch. of Ped.,'* 1915, xxxiii, *p.* 891).—**R. G. Freeman.**—The X ray is probably most valuable in the diagnosis of miliary tuberculosis, in determining a pneumonia without physical signs, in the diagnosis between pneumonia and empyema, and in the diagnosis of diaphragmatic hernia, while in heart lesions it gives reliable information as to enlargement, and will often differentiate plastic exudation from fluid. Freeman records three cases, illustrated by skiagrams, in which X rays were of service, viz. central pneumonia, endocarditis and pericarditis with effusion, and enlargement of the heart due to mitral disease.

J. D. Rolleston.

The Roentgen ray in the diagnosis of pulmonary conditions in children (*'Am. Journ. Dis. Child.,'* 1915, IX, *p.* 405).—**W. M. Hartshorn** records eight cases illustrated with skiagrams in children aged from 7 months to 10 years, and one in a woman, aged 40 years. His conclusions are as follows: (1) X rays are of distinct value in the diagnosis of respiratory diseases. In pneumonia a shadow may appear over the suspected area several days before the development of definite physical signs. (2) They are of value in showing the progress of lung involvement. (3) X rays help in the differential diagnosis between tuberculosis, abscess of the lung, lobar and broncho-pneumonia. (4) Through the obliteration of the costal-phrenic angle, the X rays show the presence of an exudate. J. D. Rolleston.

Traumatic asphyxia (*'Lancet,'* 1915, II, *p.* 911).—**W. W. Linington** describes an interesting case of traumatic asphyxia in a girl, aged 11 years, and makes brief references to other recorded cases. The pathology of these cases is purely mechanical: paralysis of the veins, venules, and capillaries due to over-distension. The only factors determining the area affected are: (*a*) The absence of venous valves sufficiently strong to prevent the reversal of blood flow; and (*b*) the amount of support afforded by the surrounding tissues to the valveless veins. The actual cause of the cyanosis is the sluggish circulation. In the condition under consideration the dilatation of the veins to several times their normal extent without any corresponding arterial enlargement means that the blood stream becomes sluggish and the tissues extract from the hæmoglobin all the oxygen, causing the extreme discolouration which only disappears when the vein has returned to its normal calibre and the current of blood its normal rate of flow. An excellent coloured plate illustrates the patient's condition on the second and sixth days. J. Allan.

A case of polyorrhomenitis (*'Lancet,'* 1915, II, *p.* 177).—**W. A. B Young**.—A male infant, aged 2 years, came under observation for a cough and weakness following an attack of measles. The patient had well-marked rickets; he was pale, in very poor condition, and had a distressing cough, with some shortness of breath. The physical signs in the chest were slight dulness at the right base, with impaired resonance at the left root behind, and generalised rhonchi and moist *râles* on both sides. The case was treated as one of rickets with broncho-pneumonia, probably of a tuberculous nature. The signs persisted almost without alteration until death. The post-mortem findings are given in detail, but it is of interest to note that a detailed search failed to reveal in any part of the body any lesion similar to those usually associated with tuberculosis. The condition of the glands was of interest. The deep cervical glands showed considerable and uniform enlargement, those along the sheath of the great vessels of the neck being fused into a more or less homogeneous mass. The glands were pale in colour and firm in consistence: to the knife they felt tough and fibrous and did not cut easily, but there was no evidence of caseation. The mediastinal glands were also much increased in size and had the same dense matted appearance, the right pretracheo-bronchial and right interbronchial groups being most affected. They were also firm and tough. The abdominal glands were affected in a similar manner, but only to a comparatively slight degree. As much of the three great gland groups as possible was removed from the neck, the mediastinum and the mesentery, and subsequently examined histologically and bacteriologically, each group being examined separately. Cut sections, stained in the usual way, showed considerable thickening of the gland capsule and very marked infiltration of the gland substance with fibrous tissue, but there could be found no tendency to the formation of tubercles, and epithelioid cells could not be identified. Tubercle bacilli were not found in the sections. Smears from the cut surfaces of the glands and from the mixed juice and pulp of the crushed glands failed to show tubercle bacilli. Inoculation of an emulsion of the crushed glands into guinea-pigs was positive for tubercle. An interesting clinical feature of the case was that the history of the sequence of measles, pneumonia and tuberculosis was found in this atypical case, just as it is so often noticed in cases with typical post-mortem tuberculous lesions. J. ALLAN.

Dermatology.

Creeping eruption (larva migrans) of the skin (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 172).—**F. C. Knowles** reports the case of a female infant, aged 20 months, who presented serpiginous gyrating lines on both buttocks and the upper surface of the mons Veneris caused by burrows of the larva migrans. Attempts to destroy the parasites with nitric acid having failed, the affected areas were excised. The histological changes set up are discussed and drawings of sections of the skin are appended.

T. R. WHIPHAM.

Generalised erythrodermia desquamativa (*'Arch de Méd. des Enf.,'* 1915, XVIII, *p.* 629).—**Mlle. Loewe** records six cases in new-born infants of this condition which was first described by Leiner in 1908 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 244), and is characterised by a bright uniform redness of the skin followed by intense desquamation, and accompanied by seborrhœa of the scalp. The new-born and young infants are chiefly affected. Almost always they are the offspring of healthy parents, and are born at full term after a normal pregnancy. Four of the six cases were breast-fed. There is no fever or digestive disturbance. Erythema first appears on the buttocks, then extends to the lower limbs and trunk, and becomes generalised. Four of the six cases recovered, two were lost sight of. Contrary to the view held by German and Austrian writers the affection seems to be relatively mild, and, like eczema, to be due to an auto-intoxication of alimentary origin. Treatment consists in rest, suitable diet, suppression of baths, and use of dry dressings with talc.

J. D. ROLLESTON.

Infantile eczema (*'New York Med. Journ.,'* 1915, CII, *p.* 704).—**H. W. Cheney** says infantile eczema is mainly a nutritional disorder and may be the only external evidence of a disordered metabolism. There is usually no marked upset in digestion such as is manifested by vomiting and diarrhœa; it is only when the cases are studied closely that we find most of them are due to *overfeeding*, either with all food or with excess of sugar or fat. In treatment, external applications ought not to be considered first but after a careful examination of the food. If breast-fed, the infant may be fed irregularly and too frequently with an over-supply of rich milk. The mother should take more exercise and less milk, cream, and cereals, and feeding should be at longer intervals—giving an ounce or two of water or barley water before breast-feeding. For the bottle-fed baby the amount of fat may be lessened and perhaps also the carbohydrate or sugar. Some cases resist this and can often be cured by using the albumin milk of Finkelstein, which rids the milk of its salts. The skin may be cleansed by cold cream or sweet oil and protected from scratching. Bland antiseptic ointments are useful. One contains starch, zinc oxide, and boric acid in petroleum. J. PORTER PARKINSON.

Impetigo nephritis (*'Deutsch. Arch. f. klin. Med.,'* 1916, CXVIII, *p.* 462). —**H. Eichhorst.**—Four children in one family, aged from 2 to 14 years, contracted impetigo contagiosa. Two developed severe nephritis, one slight albuminuria, and one died of uræmia. No bacteriological examination was made, as the cases were not seen until a late stage. Eichhorst thinks that the occurrence of nephritis in all the members of the family was due to the feeble resistance of their kidneys to the toxines derived from the septic infection of the skin (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 85, and 1913, X, *p.* 321). J. D. ROLLESTON.

Psoriasis in a young child (*'Dublin Journ. Med. Sci.,'* 1916, I, *p.* 134). —**C. M. O'Brien,** at a meeting of the Royal Academy of Medicine in Ireland, Section of Medicine, showed a case of psoriasis in a child, aged 2½ years, whose mother and grandmother had suffered from the disease. He emphasised the rarity of psoriasis before the age of five years and also the distinct heredity. The eruption, which was dry, scaly, and papular, involved the knees, elbows, arms, legs, and backs of hands. The chest and scalp were quite free. He had in mind the possibility of the case being one of seborrhœic eczema, but had come to the conclusion that the eruption was psoriasis. J. ALLAN.

Linear nævus (*'Lancet,'* 1916, I, *p.* 246).—**W. K. Sibley,** at a meeting of the London Dermatological Society, showed a child, aged 3 years, with linear nævus which had been successfully treated with salicylic acid and creosote, 15 per cent. J. ALLAN.

Granuloma annulare (*'Lancet,'* 1915, II, *p.* 1252).—**Graham Little,** at a meeting of the Royal Society of Medicine, Section of Dermatology, showed a case of granuloma annulare in a young girl. The lesions were on the backs of the legs. There was a strong family history of tuberculosis, but the child showed no evidence. The lesions frequently disappeared spontaneously, and but rarely appeared on the face. J. ALLAN.

The Simpson light in lupus (*'Lancet,'* 1916, I, *p.* 76).—**W. D. Harmer** and **E. P. Cumberbatch,** in a valuable paper on its nature, mode of production, and application, report the case of a child, aged 5 years, who had a patch of lupus on the right leg, not ulcerated, measuring 2 in. by 2 in. Thirty-one exposures to the Simpson light (open arc) were given over a period of fifteen weeks. The length of exposure was gradually increased till, at the end of eleven weeks, its duration was seven minutes. It was then gradually diminished to three minutes. The whole area of skin, with the exception of a patch ¼ in. in diameter, had healed. It was slightly pigmented. The patient had previously received local medicinal treatment, but without avail. At the time of reporting the patient was still under treatment. J. ALLAN.

Mongolian blue spots at São Paulo (*'Arch. de Méd. des Enf.,'* 1915, xviii, *p.* 544).—**C. Ferreira**.—During 1914, 513 infants attended the infants' dispensary at São Paulo, and were classified as follows: Whites, 493; mulattos, 20; negroes, 10. The Mongolian blue spots were present in 6, or 1·1 per cent. of the whites; in 10, or 50 per cent. of the mulattos; and in 5, or 50 per cent. of the negroes, as compared with 33 per cent. met with in 1913 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, xii, *p.* 251). J. D. ROLLESTON.

Trichokyptomania (*'Journ. Amer. Med. Assoc.,'* 1916, lxvi, *p.* 185).—**R. L. Sutton** describes a case of this neurodermatosis which is allied to dermatothlasia and trichotillomania (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, xii, p. 312). The patient was a girl, aged 18 years, who presented a peculiar, irregular, patchy type of baldness, which at first only involved the eyebrows and lashes, but later extended also to the parietal and post-auricular regions. She at first disclaimed all responsibility for the condition, but later confessed to the habit of twisting one or two hairs at a time and breaking them off with her nails. Under a course of psychotherapy appreciable progress towards recovery has been made in a few weeks.
T. R. WHIPHAM.

Review.

THE MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX, 1916. Thirty-fourth year. Bristol: John Wright & Sons, Ltd. Price 10s. net.

A LARGE number of articles in the present volume are concerned with the medicine and surgery of the war, such as "frostbite," "insanity and the war," "poisoning from gas," "shell shock," "soldier's heart," and the articles on injuries of the ears, eyes, and bones in war.

The papers on "The Medical Officer and the Fighting Man, by Deputy Surg.-Gen. A. Gascogne, Wildey, R.N., and on "Wound Infections: their Bacteriology, Biology, and Treatment," by Dr. A. C. Inman, deserve special attention. The subject of children's diseases receives the same careful treatment that it has had in previous issues. With the exception of acute infectious diseases, which are summarised by Dr. E. W. Goodall, the medical diseases of children are dealt with by Dr. F. Langmead. Other articles of pædiatric interest are those on congenital malformation of the heart and rheumatic heart disease by Dr. Carey Coombs, on otitis media and tuberculosis of the ear by Dr. J. S. Fraser, on poliomyelitis by Dr. J. Ramsay Hunt, on thyroid insufficiency by Dr. H. French, and on vulvo-vaginitis by Dr. C. F. Marshall. Articles relating to the surgery of childhood are contributed by Mr. W. I. de Courcy Wheeler, and Dr. Graham Little writes on various diseases of the skin occurring in children.

The following recent original articles in this JOURNAL receive notice: The atonic form of cerebral diplegia, the oculo-cardiac reflex, pneumococcus infection and immunity, the sex distribution of rickets, the vaccine treatment of scarlet fever, and the treatment of chronic lymphoid leukæmia with benzol. J. D. R.

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Original Articles.

CONGENITAL AND ACQUIRED SCLERODERMIA IN CHILDHOOD.

By E. A. Cockayne, D.M., F.R.C.P.,
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Sclerodermia in children is a rare disease. In a recent thesis entitled "Contribution à l'étude clinique de la sclérodermie chez l'enfant," Alfès has collected references to nearly a hundred cases, but has made no critical analysis of them. Some refer to cases which are not sclerodermia, others to true sclerodermia which began during or after puberty. Much obscurity has been created in the past by a confusion of this disease with sclerema neonatorum, a confusion sometimes of diagnosis, more often of nomenclature. The difficulty has arisen because sclerodermia has been called sclerema adultorum, and sclerema, sclerodermia neonatorum. The two diseases are generally admitted to be quite distinct, and their difference has been strongly emphasised by Ballantyne in his 'Diseases of the Fœtus,' in which he gives a long account of sclerema.

An example of this confusion is a case recorded by Goodell as congenital sclerodermia. Clinically and histologically it was a typical sclerema; Cruse's four cases described as sclerodermia, and tabulated as such by Lewin and Heller in their monograph, are undoubtedly sclerema, as are the cases of Jenks, Weickert, McDowell, and many others.

Barth's case in a child aged 3 months is considered by Neumann to be an example of infantile scurvy, and the clinical description makes this diagnosis a very probable one. Some cases have been described under the name congenital sclerodermia, which are instances of annular or semi-annular fibrous constrictions probably caused by the pressure of amniotic bands or coils of the umbilical cord. These are not very uncommon, and are usually accompanied by other congenital defects. Leprévost has published one case of this nature in a hydrocephalic baby, and Redard a second, which had other developmental defects. But if all these are eliminated there still remain more than a hundred cases in which the disease appeared in children under the age of 14 years.

A true congenital case is described by Haushalter and Spillmann. It occurred in a female infant, and affected the whole of the left leg. The same authors record sclerodactylia in two sisters aged 7 and 2 years respectively, in whom the disease began at 5 and 6 months.

Engelmann met with a girl, aged 7 years, in whom sclerodermia began at the age of 3 months, and spread widely over the face, trunk, and limbs, causing secondary atrophy of the underlying muscles. The affection of the muscles may, however, have been a primary myositis fibrosa. Binz records a case in a boy aged 1½ years, Isambert another in an infant aged 13 months, in which the feet, thighs, buttocks, lumbar region, neck, chin, lips and nose were affected, and which ended fatally.

Dennett gives an account of a most interesting case in a baby girl. She weighed 6 lb. at birth, and three days later became seriously ill with a high temperature. The physician who was called in said her limbs were flexed, and could never be straightened. Dennett saw the child when it was 3 months old; it then weighed 7 lb. 12 oz., showed lack of ossification of the carpal and tarsal bones, and the skin over the greater part of the body was indurated, waxy, yellowish in colour, and moist. The face was partly immobile, and the joints were all fixed in a position of flexion, the fingers looking like those of a case of congenital club-hand. Thus the child had diffuse sclerodermia and sclerodactylia, and the condition was either congenital or acquired at the age of 3 days. Probably it was present at birth. Langmead showed a case before the Section for the Study of Diseases in Children at the Royal Society of Medicine at the age of 8 months, and again a year later. On the first occasion he described it as sclerema, but corrected his diagnosis at the meeting. Diffuse sclerodermia, sclerodactylia, and myositis fibrosa were present at birth. The face, neck, chest, abdomen, back, the outer aspects of the thighs and the calves, were most affected. The knees and elbows could not be fully extended. The fingers and toes were flexed, and were small and wax-like. Many muscles were sclerosed, including the latissimus dorsi and pectoralis major on both sides. Slight but persistent fever was noticed.

Dennett's and Langmead's cases show a most remarkable resemblance to one of my own, which was shown before the Section for the Study of Diseases in Children and the Dermatological Section of the Royal Society of Medicine. The boy was the first child of healthy parents, and the mother had no illness during her pregnancy. The child was premature, born at the eighth month, and is stated to have weighed only 2½ lb. at birth. At birth the skin lesions were almost as extensive as at the present time, and no swelling was noticed. The fingers were fixed in a flexed position at birth. The hair was abundant at first, but after four months began to fall out, and the child became almost bald. In addition to the induration of the skin, hydrocephalus was present.

When first seen at the age of 7 months the infant showed a typical sclerodermia and sclerodactylia of adult type, with some fibrous myositis. The skin of the abdomen and chest was thick, and difficult to pinch up, and the abdomen showed pigmentation in a reticular pattern. The legs could not be fully extended. The skin was thickened and hard over the outer side of the thighs, round the knees, and over the whole of the lower part of the legs. The toes were fixed in a hammer-toe position, and the nails were atrophic.

The skin of the upper part of both arms was natural, but over the whole of the forearms and hands it was sclerosed. The fingers were firmly fixed in flexion, remarkably small and with the wax-like appearance, described by Langmead ; the finger-nails were atrophic. The skin of the scalp was thick and shiny, with a very sparse covering of fine hairs. The veins were much dilated. Eyebrows and eyelashes were almost absent. There was induration of the whole of the skin of the face, with marked atrophy of the lobes of the ears, the alæ nasi, and round the mouth, but the mucous membrane and tongue had escaped. The skin of the back, buttocks, groins, scrotum, and penis was normal. The muscles of the chest, abdomen, and legs were obviously atrophied and fibrous.

I have kept the infant under observation up to the present date, and it is now 2 years and 2 months old. There was a symmetrical increase in the thickening of the skin on the outer aspect of both thighs with slight pyrexia at the age of 11 months, and it then showed a slightly lobulated appearance. It has since become more atrophied. Some pigmentation has also appeared on the lower part of the back.

The finger-nails still grow very slowly, but all growth ceased in the toe-nails at about four months. Sweating has never been abolished, and is quite evident in the palms of the hands.

The child is very subject to nasal discharge, conjunctivitis and blepharitis, and at the age of 1½ years ulcers of the cornea appeared in both eyes, and on healing left opacities. Nystagmus and inequality of the pupils subsequently developed.

The teeth have not yet begun to appear. It has not been possible to obtain a satisfactory skiagram, but so far as can be seen there is no bony change and no delay in ossification of the carpal bones. Growth has been extremely slow. When first seen the child weighed 9 lb. 4 oz., at 1 year 10 lb. 8 oz., at 1 year and 4 months 11 lb. 2 oz., at 1 year and 11 months 11 lb. 8 oz., and at 2 years 11 lb. 14 oz.

The Wassermann reaction has proved negative. Treatment with mercury was tried for six months, and thyroid extract for a longer period without affecting the course of the disease.

That this, like Dennett's and Langmead's, is a case of sclerodermia it seems scarcely possible to doubt. It is true that the child was premature and undersized, and that the condition was present at birth as in many cases of sclerema. But a sclerema so extensive would almost certainly have proved fatal, the mortality of all cases being about 50 per cent., and even in the event of recovery the skin condition would have cleared up within a few weeks. Only two or three cases are known in which small areas of atrophied skin have remained permanently after sclerema. The distribution is the exact opposite to that usual in sclerema, where the chest and extremities are rarely affected, and the back and buttocks are most commonly and most severely attacked.

When the limbs are affected in sclerema it is almost always the proximal parts which suffer. In my case the skin of the back, buttocks, and the proximal parts of the limbs were the least affected portions, and that of the chest, abdomen, hands, and feet were extremely indurated.

The pigmentation which has occurred is like that commonly seen in adults with sclerodermia.

I have tabulated more than a hundred cases of sclerodermia according to the age of onset and the sex of the patient. This brings out the fact that, as in adults, females are much more commonly affected than males. It is in marked contrast with sclerema, where the sexes are equally liable. It also demonstrates that the number of cases beginning in the later years of childhood is not very much greater than in the earliest years, though the total number naturally increases with each succeeding year, owing to the chronic nature of the disease.

The commonest form of the disease in childhood is that with isolated plaques or bands of induration. Diffuse sclerodermia with or without sclerodactylia, and sclerodactylia alone, is much rarer.

As in adults the lips and tongue have been affected in a number of cases. Barlow describes one in a boy, aged 3½ years. More than one example of complete hemiatrophy with sclerodermia of the atrophic half of the body has been met with. This condition in a girl, aged 6 years, is figured and described by Dinkler. In fact the variety in the extent and distribution of the disease is almost as great in children as it is in adults. Some of the cases included in the table resemble in their clinical aspect those usually grouped under the term dermato-myositis. This disease is a rare one, and, as is the case in typical sclerodermia, its cause is obscure. In the acute onset and relapses with redness, swelling, and tenderness of the skin and subcutaneous tissue, and in the accompanying fever, it resembles an infective disease. Usually only the superficial portions of those muscles subjacent to the affected skin areas are sclerosed, but in others the whole thickness of the muscles is affected. Occasionally the disease affects much larger areas of skin than of muscle, and in Nixon's and Collier and Wilson's cases the disease of the muscles was much more extensive than that of the skin.

Thibierge and others have shown that sclerosis of the muscles may be a primary condition in sclerodermia, and patches of sclerosis may even be met situated centrally in muscles or superficially in muscles, over which the skin is normal, though more usually the areas of affected skin and muscle coincide. It is possible, as some hold, that in dermatomyositis there is an acute parenchymatous change with œdema of the muscle, and subsequent sclerosis of the same nature as the œdema and sclerosis of the skin in sclerodermia. Dermatomyositis may, in fact, be an unusually acute and extensive sclerodermia. I have seen two of these cases in boys, though comparatively few have been recorded in children. A typical case has been fully described and figured by Batten.

Myositis ossificans, which occasionally affects children, may be merely another manifestation of this disease. The clinical appearance of the initial lesions, firm raised patches, are suggestive of this. The later calcareous deposits in the muscles may be compared to those sometimes found in the skin in sclerodermia. A very marked instance of the latter has recently been published by Stebbing.

In a somewhat different category from the cases of primary sclerodermia are those sometimes met with in myopathies and spinal paralyses. Angel Money describes three cases in one family under the name, " Chronic infantile sclerema and paralysis." The first, which he did not see, died at the age of 4½ months, and was a female. In the second, induration of the skin and paralysis began at 2 months, and death occurred at 8 months ; and in the third the condition appeared at 6 weeks and death took place at 9 months. Both these children were females also.

The paralysis was a flaccid paralysis affecting the proximal parts of the limbs, the neck and back muscles, and the intercostals. There was no reaction to faradism.

One of the children had twitching of the tongue. In one case the brain and medulla were examined microscopically, and in the other the spinal cord, and no lesions were found. The muscles were not examined.

The induration of the skin occurred chiefly over the buttocks, and less on the shoulders and neck. The sclerosed skin showed excess of lymphocytes round the vessels. These cases are considered by Ballantyne to have been true sclerema neonatorum, but the condition appears to have been more probably sclerodermia. The paralysis was presumably due to a myopathy.

I have met with a very similar case in a girl aged 7 months. She was quite strong until 3 weeks old and then gradually became paralysed. When I saw her she had complete flaccid paralysis of the neck, back, and shoulder muscles ; in the latter the loss of tone was so great that the shoulders could be pulled right forward on to the front of the chest. The fore-arms could still be moved a little, but the legs were flaccid and immobile, except for some movement of the toes. The intercostal muscles were completely paralysed, but the diaphragm was acting normally. The facial muscles were not obviously affected.

There was no reaction of degeneration in the paralysed muscles, but there was scarcely any reaction to faradism. There were symmetrical patches of indurated skin round both knees and on the lower part of both thighs.

The skin was very thick and hard, unaltered in colour, and did not pit on pressure. There was a slightly lobulated condition appreciable both to sight and touch. Bronchitis was present.

The mother gave the following family history. Her first child was stillborn; her second, a boy, aged 4½ years, is healthy; her third, healthy at birth, developed a flaccid paralysis of the limbs and intercostals at 1 month, and died of pneumonia at 3 months. The condition in this child, according to the description given, exactly resembled that in the one brought to me, though there was a little doubt about the existence of sclerodermia. The fourth child was stillborn, and the fifth was the one brought to me.

Arrangements were made to admit the child into the hospital, but the mother failed to bring it up, and no further communication could be obtained from her. The diagnosis lay between a myopathy and the Werdnig-Hoffmann type of progressive spinal muscular atrophy.

In view of the great resemblance to Angel Money's cases, where the latter disease was excluded, a myopathy with sclerodermia appears to be the most probable cause of the condition. It is noteworthy that all the cases were in girls.

Ballet and Delherm and others have described sclerodermia in association with pseudo-hypertrophic and other muscular dystrophies. It has also been met with in paralysis of spinal origin in adults.

It cannot be said that the cases of sclerodermia in children throw any light on the cause of this obscure disease.

The view that it is a trophoneurosis due to disease of the sympathetic system seems the most satisfactory hypothesis for many of the cases. The prodromal signs and symptoms—erythema, pains, pigmentation, transient attacks of local cutaneous asphyxia—which commonly occur in sclerodermia are in accord with this view, as are the attacks of Raynaud's disease, which often precede sclerodactylia.

The distribution of the skin lesions often corresponds to segmental areas, spinal areas, or to the course of cutaneous nerves. The coincidence of the sclerosis with hemiatrophy of the tongue, of the face, or of the whole body, and the association with organic nervous diseases, such as tabes dorsalis, afford further evidence of nervous origin.

Many cases have been met with in which sclerodermia and disease of the ductless glands have affected the same person. Myxœdema, exophthalmic goitre, and Addison's disease, have all been seen with sclerodermia. In such cases the disease of the skin and the ductless glands are probably both due to a disorder of innervation. The cardiac respiratory and gastric crises associated with sclerodermia can be interpreted most satisfactorily in the same way.

The cases of diffuse sclerodermia with sclerodactylia, and often accompanied by myositis, are more probably due to a local infection of the skin, or of the skin and muscles.

To this group belong nearly all the cases of primary sclerodermia occurring before birth and in the first two years of life. It is, in fact, the commoner up to the beginning of the period of the second dentition. Whereas in the later years of childhood the majority belong to those which are most likely due to some derangement of the sympathetic system.

Age of onset.	Male.	Female.	Sex not specified.	Total.
Congenital	1	2	—	3
Under 1 yr.	—	8 (2 sclerodactyly)	—	8
1– 2 yrs.	2	—	2	4
2– 3 „	3	2	—	5
3– 4 „	3	1	1	5
4– 5 „	1	4	—	5
5– 6 „	2	2	1	5
6– 7 „	3	4	—	7
7– 8 „	3	9	—	12
8– 9 „	3	3	1	7
9–10 „	1	4	—	5
10–11 „	1	10	—	11
11–12 „	2	6	1	9
12–13 „	2	6	—	8
13–14 „	1	7	—	8
Total	28	68	6	102

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A CASE OF HEMI-HYPERTROPHY WITH POST-MORTEM EXAMINATION.*

By Robert Hutchison, M.D., F.R.C.P.
Physician to the London Hospital, and to the Hospital for Sick Children, Great Ormond Street.

Some years ago I published† an account of a case of hemi-hypertrophy in an infant with a description of the appearances found after death. I have now to report upon another case of the same sort. The patient, a boy aged 5 months, was admitted to hospital for pyelo-nephritis probably due to *B. coli*. He was illegitimate and no accurate family history was obtainable. On examination it was at once evident that the right arm and leg were appreciably larger than the left (Figs. 1 and 2). This was borne out by the following measurements:—Length of right arm from acromion to styloid process 5¼ in., left 4½ in.; circumference of right upper arm 5 in., left 4 in.; circumference of right forearm 5½ in., left 4½ in.; length of right leg from anterior superior spine to external malleolus 11¼ in., left 10½ in.; circumference of right thigh 7½ in., left 6½ in.; right semi-circumference of chest at level of nipples 8½ in., left 8 in.

The right semi-circumference of the abdomen at the level of the umbilicus was also greater than the left (Fig. 3) but the exact figures do not appear in the notes.

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* A communication made to the section for the Study of Disease in Children of the Royal Society of Medicine on March the 24th, 1916.

† British Journal of Children's Diseases, 1904, i, p. 258.

There was no apparent asymmetry of the skull or face.

In the abdomen the kidneys could both be felt greatly enlarged, but otherwise the viscera were normal to examination. The urine was acid and contained pus and a little albumin. The deposit showed large quantities of epithelial cells. The temperature during the few days the child was under observation ranged from 103° F. to 101° F.

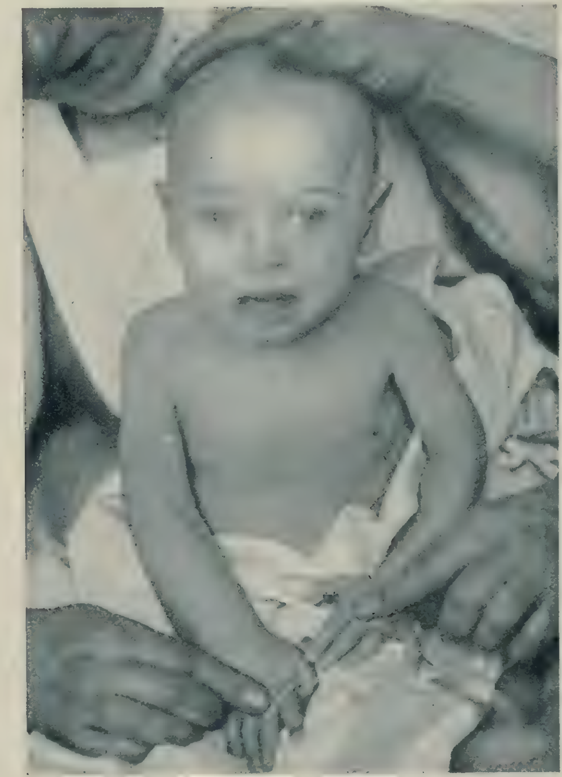

FIG. 1.

The baby went rapidly downhill in spite of treatment by full doses of citrate of potash, and died about ten days after admission.

The following is a summary of the post-mortem examination by Dr. H. M. Turnbull, Pathologist to the London Hospital :—

Descending purulent pyelo-nephritis (Coli bacilli), mucous catarrh of intestines; asymmetrical development of trunk, limbs and paired organs; hypertrophy on right side, with exception of thymus. Markedly enlarged kidneys (right 70·87 grm.) with purulent infiltration in pale cortex and medulla. Pus in both renal pelves.

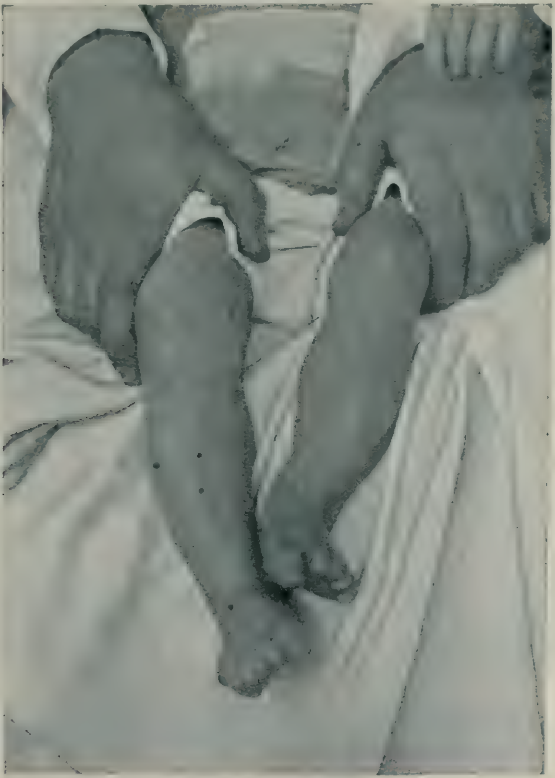

Fig. 2.

Slight dilatation of right renal pelvis. Dilatation of right ureter (lumen 1·2 cm. in diameter) to within 0·5 cm. of cystic orifice. No narrowing of right cystic orifice.

Hypertrophy with great crenation of right suprarenal body (5 × 3 × 0·5 cm. at thickest, weight 7 grm.).

Left suprarenal (4 × 2·5 × 0·2 cm. at thick margin and less than 0·1 cm. thick in remainder, weight 2·5 grm.).

Three right accessory suprarenal cortical bodies, two with old hæmorrhage replacing fœtal cortex (each 1·2 cm. in diameter), and one non-hæmorrhagic (0·3 cm. in diameter).

One left accessory suprarenal cortical body (0·5 cm. in diameter) with old hæmorrhage replacing fœtal cortex.

Right undescended testicle (2·2 × 1·3 × 1·2 cm., weight 2·5 grm.) in inguinal canal of congenital hernial sac.

Left testicle (1·5 × 0·9 × 0·5 cm., weight 1·98 grm.) in scrotum.

Right side of tongue 2·2 cm. broad and 1·6 cm. thick; left side 1·9 × 1·2 cm.

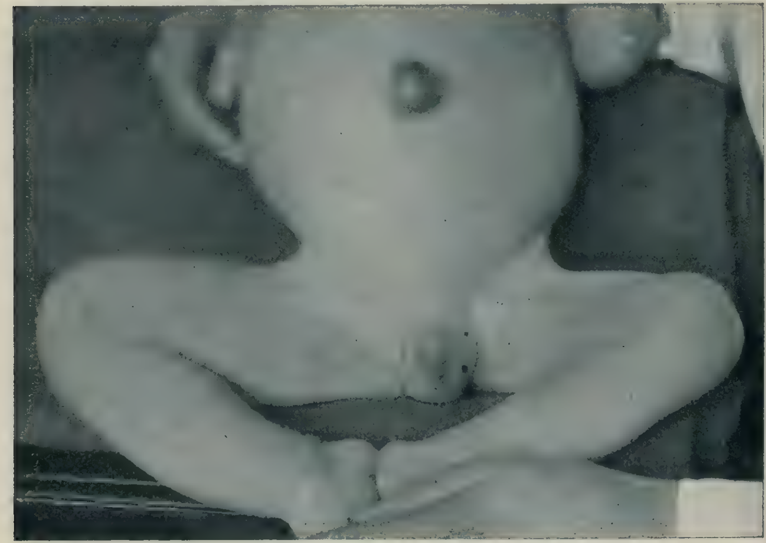

Fig. 3.

Right lobe of thyroid 2·2 × 1·3 × 0·5 cm., weight of half isthmus 1 75 grm.

Left lobe of thyroid 2·2 × 1·1 × 0·5 cm., weight of half isthmus 1·66 grm.

Postero-inferior parathyroids: right 0·5 × 0·25 × 0·25 cm.; left 0·15 cm. in diameter. Postero-mesial parathyroids: right 0·2 cm. in diameter; left 0·2 × 0·15 × 0·15 cm. Right faucial tonsil 0·142 grm.; left 0·130 grm.

Right submaxillary salivary gland, 0·870 grm.; left 0·402 grm.

Circumference of lumen of common carotids: right 1·05 cm.; left 1·00 cm. Right lower limb 28·9 cm. long; left 26·35 cm.

Right thigh 15·8 cm. circumference; left 12·9 cm.

Right calf 12·7 cm. circumference; left 10·7 cm.

Right upper limb to styloid 19·85 cm. long; left 18·9 cm.

Right forearm 11·9 cm. circumference; left 10·4 cm.

Right femur 14·3 cm. long; circumference at centre shaft 4·1 cm.; corticalis 0·25 cm. broad.

Left femur 13·2 cm. long; circumference at centre shaft 3·5 cm.; corticalis 0·20 cm. broad. Right posterior border of scapula 5·5 cm. long.

Left posterior border of scapula 4·5 cm. long.

Right thoracic cavity and lung larger, and osseous ribs longer (measurements taken) than left.

Right pinna 4·9 × 2·9 cm.; left 4·9 × 2·6 cm.

Thymus (weight 5 grm.); left lobe 7·4 × 2·2 × 0·4 cm.; right lobe 6·4 × 1·8 × 0·35 grm.; posterior accessory lobe on left side (3 × 1·1 cm.) passing obliquely on to right lobe.

No asymmetry in measurements of lower jaw, skull, orbits, cerebrum or cerebellum; anterior fontanelle patent; no premature closure of sutures of skull; spinal column straight; exomphalos; accessory fissures on posterior surface of liver; foramen ovale patent (0·2 cm. in diameter); umbilical vein and ductus arteriosus closed; no abnormality in metaphyses; commencing eruption of left lower incisor; orbits sunken; wasted child.

Pituitary gland 1·5 × 0·9 × 0·5 cm., weight 0·2 grm.

Heart 34·437 grm., liver 219·712 grm., spleen 14·17 grm.

Brain 694·575 grm., body 64·77 cm. long, weight 4·3659 kilos.

Post-mortem Wassermann reaction negative (Dr. James McIntosh).

Dr. Turnbull is of opinion that the asymmetry in this case was due to a right-sided hypertrophy because of the obvious hypertrophy of the right suprarenal, the left being apparently of normal size. He thought also that the right testicle was abnormally large.

GANGRENE OF THE LEG FOLLOWING DIPHTHERIA.*

By E. B. Gunson, M.D., M.R.C.P., Capt. R.A.M.C.

A boy, aged 6 years, was admitted to the Grove Fever Hospital on January the 5th, 1915, with severe faucial diphtheria on the fourth day of disease. He was given 20,000 units of anti-toxin on admission, and again on the following day. The urine contained a thick cloud of albumin and casts. The pulse was regular and of moderate strength. The knee-jerks were feeble. There was a double extensor response.

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* The case was shown at the Section for the Study of Diseases in Children of the Royal Society of Medicine on March the 24th, 1916.

On the eleventh day the pulse became very feeble, the heart was not enlarged, but liver dulness extended 2 in. below the costal margin. Two days later cardiac dulness extended 2 in. to the right of the middle line, and 1 in. outside the left nipple line. The pulse was regular and of good strength.

On the seventeenth day the pulse became markedly irregular. Paroxysms of regular tachycardia, at a rate of 106 per minute, were frequent; there were short periods of regular rhythm at a rate of 70 per minute; but the dominant rythym was markedly irregular from the presence of numerous premature contractions, with a pulse-rate of about 100 per minute (see Fig. 1).

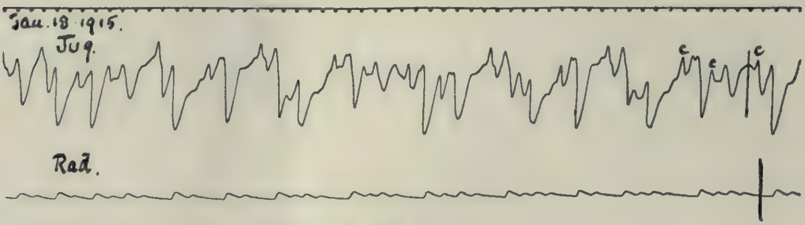

FIG. 1.

Cardiac dulness remained unchanged, but triple rhythm was present on auscultation. The liver extended 3 in. below the costal margin. There was marked pallor of face. The extremities remained warm. At 6 p.m. the patient cried out with pain in the right leg, referred to the popliteal space. Cardiac dulness had now increased, and extended 2 in. to the right of the middle line. The lower border of the liver extended 4½ in. below the costal margin.

On the following day the limb was discoloured, and the patient suffered from spasms of severe pain, referred to the right popliteal region, which was extremely tender to palpation. The limb was warm, but of lower temperature than the left; there was some cyanosis of the skin immediately below the knee. The pulse at the wrist was now regular, but very weak. At 4 p.m. a ring of œdema appeared about 1½ in. below the knee at the site of discoloration.

On the nineteenth day the patient was more comfortable, but still complained of severe pain in the leg at intervals. The ring of discoloration became more definite. The circulation in the superficial veins was maintained. Liver dulness now extended 3 in.

below the costal margin. Cardiac dulness was slightly reduced. Triple rhythm on auscultation persisted, and the pulse was feeble, but regular.

On the twenty-second day dry gangrene of the right small toe developed. During the day the outer aspect of the foot became black, and the skin over the right knee was deeply discoloured. The cardiac condition had returned almost to normal. The pulse was regular, but feeble. Liver dulness still extended 1½ in. below the costal margin.

On the thirtieth day the whole of the right leg below the level of the knee-joint was in a state of dry gangrene (see Fig. 2). The patient continued to complain occasionally of pain, which was always referred to the region of the knee. The general condition was satisfactory.

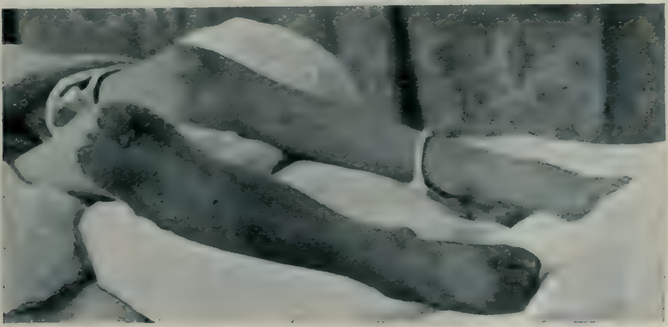

FIG. 2.

On the thirty-fourth day palatal paralysis occurred, and there was occasional regurgitation of food. Three days later pharyngeal paralysis developed, and nutrient enemata became necessary. The diaphragm was acting feebly.

During the next fortnight the patient's general condition slowly improved. There was no extension of the gangrenous area, and a well-marked line of demarcation developed. On the forty-ninth day sloughing of the skin commenced at the upper limit of demarcation. A slight separation of the skin followed, and septic ulceration occurred.

On the sixtieth day the heart was normal. The pulse was of good strength and regular. The paralyses of the palate, diaphragm, and pharynx had passed off, and the patient was gaining strength gradually.

On the seventy-first day he was transferred to the Evelina Hospital, and three days later an operation was performed by

Mr. Clogg, the limb being amputated about the middle of the thigh. On examination afterwards it was found that the popliteal artery was completely occluded by a thrombus extending for a distance of 2 in. above the bifurcation of the artery.

Progress.—The patient was seen twelve months later, on March the 24th, 1916. There was then a slight systolic murmur at the apex, but the heart was not enlarged; he was able to get about on crutches quite satisfactorily, and was free from any symptoms of cardiac distress. The amputation stump was firm, and the patient suffered from no pain or discomfort in the limb.

Remarks.—Gangrene of the leg is a rare complication of diphtheria.

Rolleston (2), in describing a similar case to the present one in 1910, was able to collect only ten other cases from the literature, and in the subsequent discussion (3) at the Royal Society of Medicine on the present case, said that only four others had been recorded since, making a total of sixteen. In eight of these the signs pointed to an embolus as the cause of the gangrene.

In the present instance the embolus no doubt arose from thrombus formation within the left ventricle, the result of the considerable degree of cardiac dilatation and enfeeblement which followed upon the onset of a marked arrhythmia. The exact nature of the arryhthmia in severe cases of diphtheria is difficult to determine by means of the polygraph, but it is probably the result of impulses arising from abnormal foci within the auricle (1).

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Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 24th, 1916.

The President, Dr. Robert Hutchison, *in the Chair.*

Rickets: Multiple Fractures.—Dr. H. Thursfield showed a girl, aged 2½ years, with old fractures of both clavicles, both femora, and both humeri, and recent fractures of right humerus and left fibula and tibia. She had marked rickety deformity of the thorax.

Osteogenesis Imperfecta.—Dr. H. C. CAMERON.—The patient was a girl, aged 5 months. Three other children in the family. No history of fractures in any relatives. Born at full time. The baby was small, though not ill-nourished. On admission, there was tetany of the hands, and the spasm could be made very marked by rendering the hand cyanosed by the pressure of an elastic band around the upper arm. In a few days this disappeared. Until admission the baby was breast-fed. The shape of the skull was typical. The anterior fontanelle was large and continuous anteriorly with a persistent frontal suture, which, in part at least, was widely separated. The posterior fontanelle was also very large. The bones of the skull generally were very thin, and in many places yielded on pressure. The ossification was most defective in the lateral parts of the skull, which were formed largely in membrane, forming persistent lateral fontanelles of considerable size. In the temporal region, only marked on the left side, there was a bulging outwards above the ear, the apex of which was displaced a little downwards. The antero-posterior axis of the eyeball pointed downwards as a result of changes in the shape of the orbit. The skull presented a superficial resemblance to that of hydrocephalus of mild degree. The limbs were somewhat curved and a little short. A thickening due to callus could be felt in the shaft of the right femur. The sclerotics were somewhat blue.

Papulo-necrotic Tuberculide.—Dr. J. L. BUNCH.—The patient was a boy, aged 17 years. The eruption had begun when he was aged 4 years, as a single red patch at the navel, on which small red nodules had developed later. The nodules were slightly raised, somewhat papular in character, and distinctly infiltrated. They had a tendency to necrose, and always left a superficial, shallow scar about $\frac{1}{8}$ in. to $\frac{1}{3}$ in. in diameter.

In 1906 there were about thirty of such scars round the umbilicus, and scattered among these were about a dozen millet-seed- to split-pea-sized raised red papules. During the succeeding years similar necrotic papules appeared in the inguinal region, on the thighs, on the upper part of the buttocks, in front of and behind both axillæ, and on the shoulders and back. Such papules were succeeded by superficial, depressed scars, similar to those previously described, so that there were then a very large number of such scars on the areas already mentioned – so many that they were not counted. The disease was evidently still progressive, for, when shown at the meeting, there was a well-marked raised red papule on the abdomen which had appeared during the past week, such as always went on to the formation of a depressed, atrophic scar.

The boy attended school regularly, and was not inferior in physique to other boys of his own age; there were not, and never had been, any signs or symptoms of lung trouble, but occasionally there had been enlarged glands. Since 1906 the disease had continually progressed, always in much the same manner, but more recently definite ulcers had been present on the legs and an unusual form of alopecia had shown itself.

The nodules and scars were always preceded by a circumscribed, irregular, dry, scaly, red dermatitis, such as was described in 1906 on the inner side of the thigh and arm, where there were now the characteristic scars. Similar appearances had preceded the atrophic tuberculide elsewhere, and there were, at the present moment, some patches of a similar dermatitis which would follow the usual cycle.

Guinea-pig inoculations were positive.

All kinds of treatment had been tried; tuberculins of various nature and in various doses, X rays, and local applications of all kinds.

Case of Molluscum Contagiosum.—Dr. J. L. BUNCH.—The boy had a number of typical molluscum lesions, but in an unusual position. They were situated in the right groin and were in various stages of evolution. The usual positions—hands and face, etc.—were quite free from lesions.

Multiple Lupus Vulgaris.—Dr. J. L. BUNCH.—A girl, aged 5 years, developed forty-four patches of lupus vulgaris after measles. The patches were of various sizes and situated on the face, trunk, and limbs. The lesions had been scraped and X rayed in addition to other local treatment in some cases, and were now cured.

Transient Hemiplegia in Diphtheria and Diphtheritic Onychia.—Dr. J. D. ROLLESTON.—A boy, aged 5 years, was admitted to hospital on October the 6th, 1915, with severe faucial diphtheria, on the third day of disease; 20,000 units of antitoxin were given on admission, 16,000 on October the 7th, and 12,000 on October the 8th. The throat became clean on October the 11th. An urticarial rash appeared at the injection site on October the 12th, and persisted till October the 15th. The same day the heart, hitherto normal, showed some slight left-sided dilatation and an occasional extra systole, and the child vomited. On October the 16th triple rhythm developed and the liver became enlarged. On November the 2nd the voice became nasal. In the morning of November the 3rd, the thirty-first day of disease, a circinate rash appeared on the limbs. Temperature 97·8° F. During the day he complained of abdominal pain, and at 10 p.m. became very pale and almost pulseless. At 1.30 a.m. the face, eyes, and arms twitched, and between 4 a.m. and 6.40 a.m. he had general convulsions. At 11.20 a.m. he was found to have complete loss of power in the right upper and lower extremities. There was slight facial palsy. The right abdominal reflex was less marked than the left. Both plantar reflexes were flexor. There was no ankle clonus. The knee-jerks were absent. He seemed to understand what was said to him, but could not speak. The left index, middle, and ring-fingers each showed a bulla on the terminal phalanx. At 7 p.m. he had recovered some power in the right upper limb, but the lower limb was still paralysed. The right plantar reflex was now extensor. He could now speak a few words. The following morning he had quite recovered his speech, and could move his right arm and leg freely. The right plantar reflex was still extensor, but became flexor the next day. The voice remained nasal until November the 29th, but no other nervous symptoms developed, and when he was allowed up, on December the 3rd, the sixty-first day of disease, he could walk without support.

In spite of a variety of local applications the lesions in the fingers showed no tendency to heal, but sloughing took place, especially in the middle finger. No membrane was seen at any time. There was no constitutional disturbance, nor any rise of temperature.

On January the 19th a culture taken from the lesion on the middle finger showed numerous groups of diphtheria bacilli, and 8000 units of antitoxin were injected. Within a week the lesions, which had been in existence for two and a half months, had completely healed. On his discharge from hospital the left index, ring, and especially the middle finger showed some deformity and ulnar deflection of the terminal phalanges. There was marked limitation of movement of the terminal phalanges of the index and middle fingers, from which nearly all the nail had disappeared. The nail of the ring finger showed only a deficiency on the ulnar side.

Gangrene of the Leg following Diphtheria.—Dr. E. B. GUNSON. —(*Vide* p. 237.)

Rapid Respiratory Rhythm apart from other Evidence of Disease.—Dr. C. O. HAWTHORNE.—A girl, aged 8 years, was under observation in hospital for some six weeks, and no evidence of organic disease was discovered. The respiratory rate was constantly quickened (60 to 80 per minute), and occasionally exceeded the pulse-rate; when the child was asleep, however, it fell to 20 to 25. There were no other symptoms, and, save for the rapid breathing, the child seemed to be in a normal state of health. When she left the hospital the respiratory rate was about 40 per minute.

Acute Nephritis without Œdema; Recovery.—Dr. C. O. HAWTHORNE. —A girl, aged 9 years, was sent into hospital as "probably a case of intestinal obstruction"; the recent history was of constipation with persistent vomiting of forty-eight hours' duration. Physical examination negative, but for several days urine scanty (8 oz. to 10 oz.) with albuminuria (Esbach 3·5) and numerous epithelial, granular, and hyaline tube casts; no blood. Early cessation of vomiting and urine normal at the end of a fortnight. No œdema at any time; maximum sphygmometer reading 85 to 90; no evidence of cardiac hypertrophy; brachial arteries palpable, but not in excess of those in other children of same age; and ophthalmoscopic examination negative. No clinical evidence of specific disease, and Wassermann reaction negative.

Congenital Sclerodermia and Sclerodactylia.—Dr. E. A. COCKAYNE. —(*Vide p.* 225.)

Paroxysmal Hæmoglobinuria.—Dr. E. A. COCKAYNE.—The patient, a boy, aged 7 years, lived in India until March, 1915, where he suffered slightly from malaria. There was a history of a miscarriage before he was born, and of a stillborn premature child two years ago. The first attack of hæmoglobinuria occurred the day after landing in England. He was free in the summer, but in the autumn with the onset of cold weather attacks had occurred fairly often. Previous to the attack the ears and feet feel very cold, but there were no definite phenomena of Raynaud's disease. The child was thin, red-haired, and very anæmic. No definite stigmata of congenital syphilis. The urine during an attack was coffee-coloured and contained hæmoglobin and methæmoglobin, but no red corpuscles and no casts. Wassermann reaction strongly positive.

Brain of Mongolian Imbecile.—Dr. J. D. ROLLESTON.—The patient was a female infant, aged 12 months, the youngest of eight children, who died of severe faucial and laryngeal diphtheria, complicated by broncho-pneumonia. The brain of a normal infant of the same age who also died of faucial and laryngeal diphtheria complicated by broncho-pneumonia was exhibited to show more clearly the following features of a Mongol's brain:

(1) Reduction of the antero-posterior diameter. The brain, as a whole, was short and oval.

(2) The large and flat character of the convolutions.

(3) The shallowness of the secondary sulci.

(4) The deficient vascularity.

(5) The small size of the pons, medulla, and cerebellum.

The brain, as a whole, was a good size for an imbecile's brain. Its weight was 836·32 grm., as compared with 816 grm.—the normal weight of a female infant aged 1 year. There was no obvious asymmetry nor any localised macroscopic lesion.

Skeleton from a Case of Osteogenesis Imperfecta.—Dr. H. C. Cameron.—The baby was aged 2 months. The birth had been premature and the deformities had been noticed from the first. The frontal suture was persistent and widely separated. The anterior, posterior, and lateral fontanelles were all widely patent. The bones of the skull were very thin. The orbits were oval, with the long axis vertical. In the temporal region the walls of the cranium were formed almost entirely of membrane, and the position of this membranous area corresponded with that of the bulging above the ear which was so marked a feature later in life. Almost every rib was fractured once, and some were fractured twice. The fractures were situated for the most part just in front of the angle of the rib, and formed two vertical rows, one on either side of the vertebral column. The position had probably been determined by the pressure of the mother's hands in the axillæ of the child in lifting it from the recumbent position. The pelvis was small and triradiate. The limbs were much deformed and curved. The curves generally seemed to exaggerate and perpetuate the posture which the child adopted *in utero*. There were numerous fractures situated generally on the apex of one of the curves. The hands and feet were slender but normal.

Report on a Case of Hemi-hypertrophy with Post-mortem Examination.—Dr. R. Hutchison.—(*Vide p.* 233.)

Abstracts from Current Literature.

Diseases of the Alimentary System.

Diet and the care of children's teeth (*'Med. Press,'* 1916, I, *p.* 55).—**S. Friel** maintains that errors in the diet of children are the chief cause of early dental decay and of malformation of the jaws, which result in irregularity of the teeth and facial disfigurement. Too much emphasis cannot be laid on giving foods that require mastication to children over 9 months old. A suggested suitable dietary is given. In making some practical suggestions for the care of children's teeth the author points to the importance of systematic cleaning of the teeth and oral hygiene. Sweets, biscuits, or cakes should never be given at bed-time. Mouth breathing is one of the greatest causes of irregularities of the teeth. Infants and children should always keep their mouths shut at night-time, and if they find it is not possible to do so, the nose and throat should be examined to discover the presence of adenoids or other obstruction. Such habits as sucking fingers, pieces of blanket, comforters, or biting the lips are injurious to the teeth, and should be stopped at once. It is advisable for children to be brought to their dentist every four months to see if there are any decayed teeth. It is much simpler to fill a small cavity than a large one, and not so painful. When a tooth starts to ache it is often too far gone to fill. If irregularities of the teeth occur they should be corrected without delay, as they are more difficult to treat later. The preservation of the temporary or "baby" teeth is important, for if a temporary tooth is lost prematurely, either by decay or extraction, the space for the permanent tooth closes up and there is no room for the latter when it erupts. J. Allan.

Hypoplasia of the teeth (*'Med. Journ. Australia,'* 1915, II, *p.* 412).—**H. Sutton** found that of 141 immigrants, 11 per cent. had definite honeycombed teeth, 6 per cent. marked patchy opacities, and in 83 per cent. nothing special was noted. This kind of teeth is dark and possesses marked depressions, pits, and gullies; the incisors, canines, and first molars of the permanent set are affected. Rickets added to a hard-water supply appears to be especially liable to cause honeycombed teeth.

F. R. B. Atkinson.

Teething as a diagnosis of many ills (*'Amer. Journ. Obst.,'* 1916, LXXIII, *p.* 554).—**J. Epstein.**—Teething is a normal physiological process in the life and development of the infant, and usually gives rise to no pain or ill-health (*vide* British Journal of Children's Diseases, 1914, XI, *p.* 480; and 1912, IX, *p.* 226). Its ætiological and pathological importance has been grossly exaggerated. In the examination of a large number of infants and young children Epstein saw cases of gingivitis, stomatitis, tonsillitis, retro-pharyngeal abscess, otitis media, gastro-intestinal disease, and convulsions diagnosed as teething. Dentition may cause swelling and redness of the gums, but in the majority of cases the swollen gums, like many other diseases of infancy and childhood, have no relation to dentition. J. D. Rolleston.

Acute non-epidemic inflammation of the sublingual glands in children: an infection of unknown origin (*'Amer. Journ. Dis. Child.,'* 1915, X, *p.* 94).—**H. Neuhof** records three cases in children, aged from 6–9 years, characterised by rapid development of a sublingual and median submental swelling and fever in previously healthy children. The sublingual swelling and fever soon disappear, whereas the submental progresses, though it subsides before abscess formation takes place. There are no complications, sequelæ or recurrences. J. D. Rolleston.

The relation between the proteolytic and chymosinic activity of the gastric contents in infants (*'Riv. di clin. pediat.,'* 1915, XIII, *p.* 481).—**G. Finizio** made observations to investigate the truth of the prevailing opinion that in healthy infants, even the newborn or premature, the gastric contents possessed marked chymosinic, but little or no proteolytic power. He found that in fasting the gastric contents exhibited the maximum activity, both proteolytic and chymosinic; half an hour after a feed they showed no proteolytic and a diminution of chymosinic power; subsequently both these activities were increased. In infants suffering from gastro-intestinal disturbance this relationship was disturbed, but observations were made on too few cases to draw any definite conclusions.

Vincent Dickinson.

The use of bismuth pills in the fluoroscopic examination of the infant's stomach (*'Amer. Journ. Dis. Child.,'* 1915, IX, *p.* 461).—**A. F. Hess**, in order to gauge the size of the pylorus and to judge whether it was normally patent or not, had bismuth pills prepared of three sizes (9, 15, and 21 mm. in circumference) and coated with keratin to prevent their dissolution by the gastric juice. They were placed on the dorsum of the tongue and gently pushed into the pharynx. It was found that normally objects did not leave the stomach in direct ratio to their size, but that larger objects were propagated into the intestine more quickly than smaller ones. According to the posture of the infant there was a marked difference in the emptying time of the stomach. Delay in the passage of the pills when the infant lay on its left side, and hastening of their passage when it lay on the right side, were almost constant. In pylorospasm there was retardation of the passage of the pills from the stomach into the intestine. In mild cases papaverin was efficient in definitely shortening the time of exit. J. D. ROLLESTON.

Gastric glands in Meckel's diverticulum (*'Amer. Journ. Med. Sci.,'* 1915, CL, *p.* 69).—**G. R. Callender.**—An infant, aged 15 months, died of intestinal hæmorrhage. Post mortem, a diverticulum was found, 75 cm. from the cæcum, on the border of the ileum opposite its mesenteric attachment and connected with the posterior wall of the cæcum by a fibrous band. On section there was a punched-out ulcer in the ileum at the border of the diverticulum, and in the margin of the ulcer a small vessel plugged with clot. On microscopical examination the ulcer was found to extend through the mucosa. Glands of the type found in the gastric fundus were present in the mucosa of the diverticulum. The usual structure of Meckel's diverticulum is that of the ileum, and Callender could find no similar case on record. J. D. ROLLESTON.

Rumination in infancy (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 678). —**A. Strauch** reports the case of a female infant, who, at the age of 5 weeks, began to suffer from symptoms of pylorospasm associated with rumination. The latter was checked by impeding nasal respiration, either by compressing the nostrils or by plugging them with cotton-wool. The child died as the result of measles and no post-mortem was made.

T. R. WHIPHAM.

Duodenal ulcer in infancy an infectious disease (*'Amer. Journ. Dis. Child.,'* 1915, X, *p.* 397).—**L. Gerdine** and **H. F. Helmholz** refer to the papers by Helmholz (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VI, *p.* 225), Holt (*ibid.*, 1914, XI, *p.* 227), and Veeden (*ibid.*, 1915, XII, *p.* 216), and report eleven cases in children aged from 1 month to 10 years, which occurred at a hospital in the course of six months. Death from hæmorrhage occurred within forty-eight hours in all cases except one, in which it occurred after a week from an intercurrent affection when the ulcer was practically healed. As a complication in atrophic infants the prognosis is always bad. Diplococci and streptococci were found in all the ulcers of this series and in ten out of fourteen ulcers of a previous series. From one ulcer a *Streptococcus viridans* was cultivated, which, when injected into dogs and rabbits, became localised in the pyloric end of the stomach and duodenum and produced there hæmorrhages and ulcers. J. D. ROLLESTON.

A contribution to the diagnosis of appendicitis in childhood (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 197).—**F. L. Wachenheim** recommends more general use of rectal examination, which often reveals tenderness at McBurney's point. F. R. B. Atkinson.

A case of Hirschsprung's disease (*'Arch. of Ped.,'* 1915, xxxii, *p.* 278). —**J. I. Linde** and **S. B. Kleiner** report a case in a girl, aged 3 years, who had always been very constipated. She had never had a bowel movement without an enema except during an attack of ileo-colitis at the age of 1 year. Five days would pass without a motion, and then she would show signs of toxæmia or have a convulsion. She would then be given enemata and retain over a quart. The motions were very large, at first hard, then loose and very foul. She vomited very frequently. The abdomen was protuberant and the superficial veins enlarged. The X rays confirmed the diagnosis. J. D. Rolleston.

Megacolon and microcolon (*'Amer. Journ. Dis. Child.,'* 1915, ix, *p.* 283).—**L. Porter** and **A. Weeks** think that megacolon is commoner than is generally thought. The symptoms are present from birth, viz., enlarged abdomen, visible intestinal peristalsis, obstinate constipation, later anæmia and toxæmia from fæcal retention, accompanied sometimes by recurring attacks of intestinal obstruction. Pathological hypertrophy with dilatation may include the entire intestine or cease at the sigmoid, which will be hypertrophied but with a narrow lumen. The best treatment is operation performed in two or three stages, colotomy with artificial anus, later excision of the entire large intestine with anastomosis from the ileo-cæcal region into the rectum, or anastomosis may be done as a second stage and resection of the entire colon may be made a third operation. The writers report three cases of megacolon, in two of which the symptoms were present at birth, and one of microcolon with hypertrophied small intestine.

J. D. Rolleston.

A case of amœba colitis (*'Arch. of Ped.,'* 1915, xxxii, *p.* 272).—**G. J. Greil** reports a case in a boy, aged 5 years. The symptoms were colicky pain and loose blood-stained motions. The patient was cured by hypodermic injections of emetine hydrochloride, the doses varying from gr. $\frac{1}{10}$ to gr. $\frac{1}{6}$. J. D. Rolleston.

Severe acute enteritis with diffuse streptococcal peritonitis by propagation (*'Rev. Méd. de la Suisse rom.,'* 1915, xxxv, *p.* 37).—**Weinberg.** —A girl, aged $7\frac{1}{2}$ years, was admitted to hospital as a case of typhoid fever. Five days previously she had complained of abdominal pain and shown tenderness to the right of the umbilicus. During the next four days she had several green stools. On admission Widal's test and the diazo reaction were negative, and there was a leucocytosis of 8,800. Owing to the board-like resistance of the abdomen (*ventre de bois*), Prof. Combe diagnosed perforative peritonitis in spite of the numerous stools. Roux regarded the case as too bad for operation. Death occurred two days later after an illness of five days. Post mortem the omentum was found covered with thick green pus, but there was no sign of a perforation or of a circumscribed lesion. The mucous membrane of the ileum, especially of Peyer's patches, was swollen, and there was very slight irritation of the rest of the intestine. Streptococci were cultivated from the spleen. J. D. Rolleston.

Practical importance of examination of stools in infants (*'Am. Journ. Med. Sci.,'* 1915, CXLIX, *p.* 815).—**H. M. McClanahan** and **T. C. Moore** examined the milk ingested for specific gravity, reaction and amount of fat, carbohydrates and proteids, and the stools of the infant for colour, reaction, odour, consistency, blood, mucus, curds, total fats, reaction to lugol solution, and for Gram-fast and negative bacilli. Mucus is distinguished from partially digested starch by the addition of iodine, which stains the latter bluish-pink. Fat curds float while casein curds sink in water; casein curds harden in formalin. The nature of the fatty substances in the stool, whether fat, fatty acid, or soap, can be roughly obtained by microscopical examinations. Sudan iii, if used to stain a small portion of the stool, stains the fats red, fatty acids orange, while the soaps are not stained. On addition of glacial acetic acid the fats are converted into fatty acid and appear as orange-red droplets. If there is a large increase of droplets after the addition of the acid, the fat has been present in the form of soaps. As regards colour, malt feeding gives brown stools, condensed milk light yellow stools, and skimmed milk very pale stools. Green stools, due to the *B. pyocyaneus*, lose their colour on the addition of nitric acid, while those due to biliverdin give the well-known bile reaction. Grey stools are due to the absence of bile. A highly acid stool is due to excess of carbohydrate, a relative excess of proteid gives an alkaline stool. The stool of an infant fed on cow's milk is thicker and more pasty than that of the breast-fed. If the stool contains excess of neutral fat or fatty acid it is soft and oily, if excessive soap it is hard and dry, and if there are excessive carbohydrates it is thin, watery, and sometimes foaming. Black blood comes either from a fissured maternal nipple or a duodenal ulcer. Fresh blood usually comes from a lesion of the infant's rectum. An excess of fatty acid and soaps shows that neutral fat has been broken up but not absorbed, and should always lead to a suspicion of tuberculosis. Excess of fatty acid often causes diarrhœa with a marked loss of sodium and potassium and a relative acidosis which may set up cyclic vomiting. A marked preponderance of Gram-negative bacilli as compared with Gram-positive lactic acid organisms indicates a change from normal fermentation to putrefaction.

CHRISTOPHER ROLLESTON.

Summer diarrhœa (*'Med. Press and Circ.,'* 1915, II, *p.* 28).—**E. Cautley.**—The disease is commonest between 3 months and 2 years. The chief ætiological factors are food supply and environment. In babies artificial feeding and dirt are the chief factors. The organisms found chiefly belong to the Gaertner group of bacilli. Symptoms: Restlessness, sleeplessness, vomiting, collapse. Fever may be due to toxæmia alone. At first in mild cases the symptoms resemble those due to unsuitable food; in a short time greenish stools are passed, and perhaps blood and mucus. Recovery may ensue in a few days, or the disease become more severe with high temperature, vomiting, thirst, dirty-green watery and offensive stools, occasionally blood and mucus. Drowsiness and prostration rapidly follow, and death frequently ensues. In the fulminating cases the onset is very rapid and the discharge resembles true cholera. The prognosis should always be guarded. Treatment: Breast-feeding should be insisted on during hot weather. The slightest attack of diarrhœa should receive immediate treatment with castor oil or calomel, etc., and temporary starvation. In more severe attacks stop all food by the mouth and give calomel or castor oil. Sodium sulphate gr. x every half to one hour for four to six doses is a good remedy for children over 9 months of age, but it should not be given if the temperature is low. If the vomiting is severe, wash out the stomach. Irrigation of the colon is indicated in severe cases. Collapse is relieved by hot fomentations, mustard leaf or bath, and brandy by the mouth with sal volatile, camphor, ether, or caffein, and subcutaneously strychnine. Subcutaneous saline injections are of value. If there be much fever sponge the body. The diet should consist of water, toast-water, and weak tea for 12–24 hours, then 5 per cent. lactose solution for 1–3 days, and after this the same in barley water. After 2–3 days lactose and dried casein and peptonised milk and barley water can be tried until the ordinary diet is resumed. In the acute stage Dover's powder every 2–3 hours for six doses can be given. After the preliminary purgation, bismuth and soda or tr. camph. co. or carbolic acid may be given with advantage. The child should be kept warm. F. R. B. Atkinson.

Relation of bacteria to summer diarrhœa ('*Boston Med. and Surg. Journ.*,' 1915, clxxii, *p.* 851).—**A. L. Kendall** mentions three theories of the causation of diarrhœa—meteorological, physiological, and bacterial. The first mentioned cause includes comparatively few cases which occur in hot, humid summer weather and are accompanied by high temperature and severe prostration. Recovery ensues on removal to a suitable environment. The causative bacteria vary from year to year. In 1910 the predominating agents were the dysentery bacilli of Flexner and Shiga, in 1911 the streptococci, the incriminating evidence against these organisms resting on their unusually high count in the fæces, and on the septic character of the sequelæ, which included peritonitis, otitis, nephritis, and septicæmia, and in 1912 the ætiological factor was the *B. aerogenes capsulatus*, which produces a characteristic necrosis of the solitary follicles of the intestine and flourishes on the administration of sugars which inhibit the growth of dysentery bacilli, but succumbs to buttermilk containing lactic acid. In 1913 another variety of capsulated organism was the cause of a less lethal form of the disease. It is widely distributed in nature and was found even in Boston certified milk. Christopher Rolleston.

Infectious diarrhœa ('*New Orleans Med. and Surg. Journ.*,' 1915, lxxviii, *p.* 229).—**C. J. Bloom**.—During the summer of 1914 Flexner's *B. dysenteriæ* was found in the majority of cases in the Boston Floating Hospital. *B. Welchii*, streptococci, typhoid, and paratyphoid bacilli were also found. Sixteen out of 25 cases were under 1 year, 8 were between 1 and 2 years, and only 1 was over 24 months. Ten of the 12 deaths occurred under 12 months of age; 14 were males and 11 females. The resistance of the Italian children was superior to that of the other nationalities. Ten of the 12 fatal cases had been previously fed on breast milk alone or in combination. The average illness lasted 23 days. Most cases that lived 20 days or more recovered. All cases in which ruby-red lips were noted in contrast with the anæmia died. Vomiting was present in 21 cases. Blood was seen in 80 per cent., pus in 48 per cent., and mucus in all. Among 18 in which the weight was recorded the greatest loss in one day was 1 lb. 7 oz., and in two days 2 lb. 6 oz. Each patient had on an average 10 days of fever while in hospital. The temperature ranged between 106° and 100° F. All with a temperature above 104° F. died. The maximum respiration varied from 30 to 70 per minute; all the fatal cases had respirations above 30. The pulse varied from 120 to over 190. The toxic cases were principally those caused by Flexner's *B. dysenteriæ*; the non-toxic cases were caused by *B. Welchii* or mixed infection. With the fall of temperature there was a corresponding rise in the total leucocyte count. The Flexner group showed a leucopenia throughout their illness, the Welch group a leucocytosis, and the cases of mixed infection a marked leucocytosis.

J. D. Rolleston.

Relation of gas bacillus to infectious diarrhœa and other digestive disturbances in childhood ('*Arch. of Ped.*,' 1915, xxxii, *p.* 457).—**P. H. Sylvester** and **F. H. Hibben**, as the result of their investigations, come to the following conclusions: (1) The gas bacillus is not a normal inhabitant of the intestinal tract. (2) Its pathogenicity is demonstrable in certain cases of infectious diarrhœa, fat intolerance, carbohydrate intolerance, and chronic intestinal indigestion. (3) The best dietary treatment is fat-free lactic acid milk, unpasteurised, as it imposes conditions unfavourable to the growth and activity of the gas bacillus. J. D. Rolleston.

Presence of B. dysenteriæ and other bacilli in acute infectious diarrhœa ('*Boston Med. and Surg. Journ.*,' 1915, clxxii, *p.* 280).—**C. Ten Broeck.**—The dysentery bacillus was isolated in 54 out of 79 cases. A suspension of the stools was placed on endo-medium, subcultured in Bouillon, and then transferred to Hiss' solid medium containing either lactose or mannite. The macroscopic test was then applied to the bacilli, anti-dysenteric horse-serum being used. Comparatively few colonies grew on the endo-plates, and in 4 cases of ante-mortem failure the organism was discovered at the autopsy. Not a single culture of the Shiga bacillus was obtained, but the majority belonged to the Hiss' "Y" type fermenting dextrose and mannite, but not saccharose, maltose, dextrin, and lactose. The remaining forms were equally divided between the Strong and Flexner types. In diarrhœa due to indigestion the dysentery bacilli were never found. The *Bacterium Welchii* was found in 11 per cent. of the cases showing dysentery bacilli, in 26·4 per cent. of cases of indigestion, in 29 per cent. of patients suffering from malnutrition, and is frequently isolated from normal stools. Its causal agency in diarrhœa is, therefore, not proven. *B. proteus* was only found in 4 out of 31 stools containing dysentery bacilli. *B. pyocyaneous* and Morgan's bacillus No. 1 were found so infrequently that their lethal power is discountenanced. Christopher Rolleston.

A note on the invasion of the bodies of infants by the B. dysenteriæ ('*Boston Med. and Surg. Journ.*,' 1915, clxxiii, *p.* 84).—**C. Ten Broeck** isolated *B. dysenteriæ* from the blood of a male infant suffering from a temperature of 105° F., prostration, and symptoms of typhoid fever. The organism corresponded to the Flexner type of *B. dysenteriæ*, and was agglutinated by anti-dysenteric serum. Blood-cultures were made from 11 other cases, in 6 of which the dysenteric bacilli were present in the stools and in 5 clinical symptoms of acute infectious diarrhœa were present. In none of the blood-cultures was the bacillus found. In 14 other cases the abdominal organs were examined, with a negative result. In a few cases the alimentary canal was searched for dysenteric bacilli, which were found in the lowest part of the ileum and throughout the large intestine.

Christopher Rolleston.

Intestinal parasites in children ('*Amer. Journ. Dis. Child.*,' 1915, x, *p.* 363).—**G. J. Greil**, of Montgomery, Alabama, examined 665 children, under 12 years of age, between September, 1910, and April, 1915, and found

240 infected. Hookworm infection was commonest (26·75 per cent.), hymenolepis nana was found in 5·75 per cent, ascaris lumbricoides in 4·06 per cent., oxyuris vermicularis and trichocephalus dispar in only 0·75 per cent. each, and mixed infection in 1·8 per cent. The larger percentage of hymenolepis nana and ascaris lumbricoides and the small number of oxyuris vermicularis were surprising, but confirmed Schloss's findings (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, *p.* 276). Less than 10 per cent. of those infected complained of symptoms referable to the infection. Greil recommends that every county and municipality should appoint a special physician to follow the work done by the Rockefeller Hookworm Commission (*ibid.*, 1915, XIII, *p.* 64) and to examine the fæces of every child in the district. No child should be permitted to attend school until an examination had been made and proved negative. J. D. ROLLESTON.

Trichocephalus dispar infection ('*Med. Record*,' 1915, LXXXVIII, *p.* 318).—**R. R. Mellon** reviews the literature and reports a case in a girl, aged 3 years, who had lived for the past year in the Philippines. About five or six months ago her appetite disappeared and marked abdominal bloating was noted. She did not sleep well, and frequently awoke with a shriek. Clonic spasms of the muscles occasionally occurred at these times, and not infrequently a generalised toxic spasm produced rigidity of the whole body. About two and a half months ago she suddenly developed moderate jaundice with a temperature of 104° F. In twenty-four hours the temperature became normal and the jaundice gradually disappeared. Trichocephalus eggs were found in the stools. Blood examination: Reds, 3,330,000; whites, 8,200; hæmoglobin, 70 per cent. Differential count: Polymorphs, 36 per cent.; large mononuclears, 42·2 per cent.; small lymphocytes, 14·5 per cent.; eosinophils, 7·5 per cent. Under treatment with cina, saline purges and santonin the eggs disappeared from the stools and considerable improvement took place. J. D. ROLLESTON.

A case of trichocephalus dispar ('*Dublin Journ. Med. Sci.*,' 1915, I, *p.* 197).—**H. C. Drury.**—A boy, aged 12 years, had very markedly enlarged glands on both sides of the neck, and a few small glands could be felt in the axillæ and groins. He looked wretchedly ill; he was, in addition, very deaf, and had very defective vision due to opacity of both corneæ; appetite voracious; bowels extremely constipated; urine free from sugar and albumin; temperature subnormal and irregular. As Hodgkin's disease was suspected, he was treated with arsenic and improved considerably. A specimen of his blood was sent for microscopical examination and for the Wassermann reaction. The reports received were: "Large lymphocytes, 43 per cent.; polymorphs, 46 per cent.; eosinophils, 10 per cent. This does not support the idea of Hodgkin's disease, but the large percentage of eosinophil cells suggests the presence of intestinal worms." The Wassermann reaction was strongly positive. Under anthelmintic treatment a male ascaris lumbricoides was expelled, and microscopic examination of the fæces disclosed the presence of numerous eggs of trichocephalus dispar, but none of ascaris lumbricoides. As the patient was young and far from robust it was not deemed advisable to try thymol or other toxic drugs. The operation of appendicostomy was therefore performed, and the worms were attacked by injecting infusion of quassia into the cæcum through the fistula thus made. Many specimens of trichocephalus dispar were subsequently evacuated in the alvine discharges, and a cure has apparently been effected.

J. ALLAN.

Tænia saginata (*'Journn. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1972).—**M. C. Hall** reports the occurrence of tænia saginata or beef tape-worm in a Polish child at the early age of 14 to 18 months. In addition to the worm, the larvæ of a beetle, the *Tenebroides mauritanicus*, were found in the fæces. The latter are not parasitic and were probably ingested in old bread.

T. R. WHIPHAM.

Syphilis.

The luetin test in congenital syphilis (*'Med. Press,'* 1915, II, *p.* 460).—**Adair Dighton** records his experiences of this test in thirty cases where the family histories might suggest congenital syphilis. His results were negative; in no case was there the slightest sign of any skin reaction, and in only one case was there a constitutional reaction which might possibly be ascribed to the luetin, this case being a boy, aged 7¾ years, with a large perforation of the palate and ulceration of the epiglottis. Interstitial keratitis, ozæna, adenoids, progressive myopia were among the diseases suffered from by the children tested in this way. He considers that the luetin test is useless in these cases. J. ALLAN.

The value of the luetin reaction in congenital syphilis (*'Arch. of Ped.,'* 1916, XXXIII, *p.* 186).—**M. B. Gordon** refers to Alan Brown's paper (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, XI, *p.* 45) and records his own observations. He found the reaction positive in 18, or 81 per cent., of 22 cases of congenital syphilis, and absent in all but one out of 33 non-syphilitic cases. He regards the test as more suited for pædiatric work than the Wassermann reaction. The test is absolutely safe, as not a single case has been reported of syphilitic infection having been conveyed into the system. As a rule no constitutional disturbance is produced (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *pp.* 29 and 255). J. D. ROLLESTON.

The ætiological relationship of syphilis to Sydenham's chorea (*'Arch. of Ped.,'* 1915, XXXII, *p.* 561).—**H. Koplik** studied this question in eleven cases of chorea, aged from 6 to 13 years. Wassermann's reaction was negative in eight, doubtful in two. None had any stigmata of syphilis, hereditary or otherwise. Nine were given intravenous injections of neosalvarsan in doses ranging from 0·15 grm. to 0·4 grm. No benefit ensued, a relapse was not prevented, and in one nephritis resulted. Koplik concludes that salvarsan is not of any special value in the treatment of chorea, and that we are not warranted in tracing any relationship between Sydenham's chorea and hereditary or acquired syphilis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, *pp.* 27, 46, 188; and 1914, XI, *p.* 45).

J. D. ROLLESTON.

Congenital syphilis simulating Mongolism in one of twins (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 55).—**F. van der Bogert.**—In a family of four children the first child, born when the mother was 18 years old, presented a Mongolian appearance, a large liver and spleen, and a positive Wassermann reaction, the second child, aged 8 years, was normal. Of twins aged 5 years, born when the mother was 22, one was normal and the other simulated Mongolism chiefly by his broad flattened nasal bridge. The palpebral fissures were narrow, but there was little if any slanting. The tongue did not protrude, nor was it fissured. The head was not flattened antero-posteriorly, the

hands were not characteristic, and the child was brighter mentally than his normal brother.
J. D. Rolleston.

Familial syphilis (*'Am. Journ. Dis. Child.,'* 1916, xi, *p.* 11).—**P. C. Jeans** studied the families of 100 cases of syphilis treated at St. Louis Children's Hospital. He thinks it highly probable that all the mothers were infected. Of 85 mothers of syphilitic children, 86 per cent. gave a positive Wassermann reaction. All the rest but 6 gave a history of infection, or treatment, or both. Five of the 6 were examined at least ten years after the birth of the last syphilitic child, when the infection was probably dying out. Of 331 pregnancies in the 100 families, 30 per cent. were abortions, 9 per cent. stillbirths, and 61 per cent. living births. Of the living births 24 per cent. had died. Of those living 80 per cent. had syphilis. Of the total pregnancies 90 per cent. were presumably syphilitic, and there was no proof that the remaining 10 per cent. were all free from syphilis. Most of the families followed Kassowitz's rule, *i. e.* decreasing grades of infection in the children. Several of Jeans's families supplied evidence of a neurotropic strain of spirochæte.
J. D. Rolleston.

Congenital syphilis of the hands and feet (*'Dub. Journ. Med. Science,'* 1915, ii, *p.* 450).—**H. de L. Crawford**, at a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, showed photographs of four cases. The skiagrams were brought forward as congenital syphilis of the hands and feet was considered a rather rare condition. The first case, a boy, aged 11 years, came with a very large swelling on the outside of the left foot and a good deal of thickening in the soft parts. He had typical Hutchinson's teeth. The condition further developed, and when the photographs were taken it had spread to the proximal phalanges of the big toe. The X ray pointed to the condition being gummata underneath the bone. The patient was given a half dose of "606" without effect. Under continued treatment with mercury and iodide of potassium the gummata healed up. The second case was that of a boy who had also well-marked Hutchinson's teeth. He was the only living child in the family, and there was a history of six miscarriages. The thumb was very swollen and the phalanges showed small areas of rarefaction. There was no pain, so the condition was not looked upon as tuberculous. There was no sign of ordinary or of syphilitic rickets. The third case occurred in a baby, aged 1½ years. The child was an adopted one, and no definite family history was forthcoming. There was much metacarpal thickening. The child had a typical syphilitic forehead, and the absence of increased heat, tenderness or pain made it positive that the case was not one of tuberculosis. The fourth case was that of a child with swollen ring-finger on the left hand. The swelling was due chiefly to the enlargement of the soft parts. The skin was redder and warmer than in the previous case, but there was no tenderness. Amputation of the finger was advised. On cutting down to the periosteum, through apparently fibrous tissue, the extensor was found to be involved, and a rather soft, gritty substance was seen, which was apparently new bone. The wound was closed up aseptically and it healed. In a week later there was slight enlargement of the other hand. The case was considered syphilitic. The family history was very bad. There had been three miscarriages. In conclusion, the author remarked that this condition appeared to be more common than was expected, and he had therefore decided in future not to label any of these cases as tuberculous until they had been well examined.
J. Allan.

Chronic cervical adenopathy in heredo-syphilis (*'Thèses de Paris,'* 1915–6, No. 27).—**Y. Pouzin.**—Enlargement of the cervical glands may be attributed to syphilis when it occurs in heredo-syphilitic children who show a positive Wassermann and a negative von Pirquet, without lesions in the skin or mucous membranes of the corresponding lymphatic area. This adenopathy is a later manifestation of heredo-syphilis. In heredo-syphilitic children with a positive tuberculin reaction, but without any clinical symptoms of tuberculosis, it is difficult to state the nature of the glandular enlargement. Pouzin, however, thinks that it may be, and often is, syphilitic, owing to the improvement produced by mercury and iodides, which have little or no effect on tuberculous adenitis. Clinically there is no pathognomonist sign of syphilitic adenopathy. In every case of glandular enlargement of which the tuberculous nature is not proved either by local or general examination, one should always think of heredo syphilis. The thesis contains the histories of forty-two cases in children, aged from 3½ to 15 years.
J. D. Rolleston.

Symmetrical synovitis in hereditary syphilis (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 941).—**Abner Post** describes Clutton's 11 cases which were characterised by insidious chronic painless synovitis of the knee joints, rarely of the ankle, with thickening of the synovial membrane, but without enlargement of the bones. They were not improved by local treatment. Five had Hutchinsonian teeth, 4 had tibial nodes, 9 had interstitial keratitis, and 2 were absolutely deaf. The joints are not affected simultaneously, the second may follow the first at an interval of twelve months. Locomotion is awkward, and the joints may become flexed. Recovery is usually perfect, but slight permanent flexion of the joints may ensue. A personal case is recorded presenting no other signs of the disease at first and a negative Wassermann. Later keratitis developed. Mild mercurials with salvarsan as an adjuvant are advised.
Christopher Rolleston.

Mental features of congenital syphilitics (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 952).—**J. H. Bazeley** and **H. M. Anderson** state that not more than 30 per cent. of delinquency is connected causally with congenital syphilis, but in over 50 per cent. of the cases of hysteria and compulsion neuroses the father had lues or tabes and general paresis. The varieties of congenital syphilis were classified according to physical signs, serological reactions, and family history as follows: (*a*) Those with a Wassermann positive in the cerebro-spinal fluid, *e.g.* juvenile paresis and tabes. (*b*) Those with negative cerebro-spinal fluid, *e.g.* hydrocephalus, epilepsy and optic atrophy. (*c*) Those with a positive Wassermann in the blood and with definite physical stigmata. (*d*) Those with a positive blood, but without physical stigmata. (*e*) Those with definite physical stigmata, but with a negative blood. (*f*) Those without stigmata and with a negative blood, but with a definite history of parental infection, or of numerous still-births and abortions. Sixty syphilitics diagnosed under the above heading were compared with 60 non-syphilitics. The average age was the same in both—10·3 years. The syphilitic were equal in intelligence as measured by the Binet scale to normal children of 6·2 years, the non-syphilitic to those of 7 years. Therefore the deficiency among the former was 4·1 years, as compared with 3·3 years of the latter. Syphilis accounted for 29 cases of feeble-mindedness, other causes for 25. Nineteen cases of retardation were assigned to lues, and 12 to causes other than syphilis. Defects in speech were nine times as common among the syphilitic, and visual defects twice as common. Mental processes were classified under the following headings: Receptivity, Imagination, Affectivity, and Thought, the latter including reasoning, judgment, and comprehension. The following were the numbers of syphilitic and non-syphilitic affected under each heading:

	Syphilitic.	Non-syphilitic.
Receptivity	25	16
Imagination	22	19
Affectivity	24	29
Thought	19	17

Plural defects under these headings were noted in 33 of the luetic and 27 of the non-infected. The cases were also investigated as regards delinquency, which included truancy, mendacity, sex offences, larceny, disorderly conduct, assault, and arson. Forty-eight of the syphilitic, but only 39 of the non-syphilitics, had been convicted under one or other of these offences. The before and after picture where syphilitic infection makes its appearance is interesting. The earlier children were bright; then parental syphilis ensued, and feeble-minded and retarded children were born, and others affected with cerebro-spinal syphilis, general paresis, and tabes.

CHRISTOPHER ROLLESTON.

The spinal fluid in Mongolian idiocy (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 1373).—**H. C. Stevens** records his investigations in a further series of eighteen Mongolian idiots, which confirm his original opinion that the condition is one of the manifestations of congenital syphilis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 255). In the second series the Wassermann reaction was positive on the blood-serum in six cases and on the spinal fluid in two. The globulin content was increased and the gold-chloride reaction was present in all, the colour-changes of the latter being typical of cerebro-spinal syphilis.

T. R. WHIPHAM.

Reviews.

ABNORMAL CHILDREN (NERVOUS, MISCHIEVOUS, PRECOCIOUS, AND BACKWARD), A BOOK FOR PARENTS, TEACHERS, AND MEDICAL OFFICERS OF SCHOOLS. By BERNARD HOLLANDER, M.D. 1916. London: Kegan Paul, Trench, Trubner & Co., Ltd. Pp. 224. Illustrated with photographs. Price 3s. 6d. net.

To quote from the Preface: "This book deals with the nervous defects of children, and the various forms and degrees of mental and moral deficiency that may occur from infancy up to the age of twenty-one. It deals not merely with the deeper grades . . . but also with those minor defects of mind and conduct, to which all children are liable, and which, if not avoided or corrected by careful training, influence their whole career in life." Furthermore, it deals with the precocious and the talented child, and shows that if special instruction were provided in accordance with the individual aptitudes for children of unusual inborn ability, both the State and the individual would be benefited. The author's object is to show that the education of children of all degrees of intelligence is a problem not for parents and teachers only, but that the co-operation of the medical psychologist is an absolute necessity. He it is who can not only demonstrate how to counteract the effects of evil heredity, bad environment, and disease, but can also advise as to the education and pursuits of precocious and gifted children.

Dr. Hollander's descriptions of the various mental abnormalities and nervous disorders, which occur in children, are carefully thought out and can readily be recognised by the lay reader. Illustrations of the different types of children, moreover, serve to emphasise the descriptions in the text. The writer gives some sound advice as to the general and moral education of both normal and abnormal children, and lays stress upon the value of "suggestion" in cases of moral delinquency and of nervous disturbance.

The book will be found well suited for its purpose, but contains one or two inaccuracies, *e. g.* the statement is made (p. 32) that the brain of a hydrocephalic child "may weigh as much as seventy ounces." This is evidently intended to include the weight of the contained fluid, but as it stands is misleading. Again, on p. 167 we find it stated that "the bones of the skull are very thin until the age of puberty, *i. e.* about a line in thickness." Further, *fœto* is not the ablative of *fœtus*, and women are not admitted to degrees at Oxford and Cambridge as the author seems to imagine.

T. R. W.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twenty-seventh Session. Edited by LINNÆUS LA FÉTRA, M.D. Vol. XXVII. Chicago: American Medical Association Press.

THE present volume contains much interesting matter. The presidential address of Dr. George Acker is a model of conciseness, and deals very effectively with the difficulties of "Present-day Problems in Pediatrics." "Too much attention," he urges, "has been devoted to an attempt to destroy infectious material at the expense of a building up of individual resistance by good food and proper hygiene," a conclusion which may be urged in criticism of many of our own methods of campaign at the present time. Of thirty-two papers, eleven deal with some point connected with the feeding of infants and the metabolism of foodstuffs. Perhaps the most important of these is the elaborate study of the metabolism of a two-months-old infant fed upon varying proportions of cow's milk protein, by Dr. Hoobler, working at Cornell, and the chemical study of women's milk, especially in its inorganic constituents, by Professor Holt and his assistants. Drs. Porter and Drew record an investigation of the tolerance of infants for large quantities of maltose and lactose. With very large quantities of sugar they achieved a rapid gain in weight, and dyspepsia and green stools did not appear until a very late stage. They regard these observations as opposed to the teaching of Finkelstein. It is stated, however, that no infant known to have a low tolerance for carbohydrate was experimented upon, and that the majority were comparatively mild cases of fat intolerance, with excess of fat in the stools—that is to say, cases in which the usual treatment is the prescription of carbohydrates. In no case, presumably, was the excess of sugar continued after diarrhœa had set in, so that the further stages of sugar intoxication could not be expected to develop.

The papers upon subjects other than dietetic are perhaps generally of less interest, but they include an elaborate report of a Committee on Vaginitis in Childhood.

H. C. C.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XIII. SEPTEMBER, 1916. No. 153.

Original Articles.

A CASE OF GASTRO-ENTERITIS DUE TO B. PROTEUS.

By W. Boxwell, M.D.,
Physician to Meath Hospital and County Dublin Infirmary.

Kathleen H—, a girl aged 6 years, first came under my notice on August the 22nd of last year. I was asked to see her in consultation by Dr. Mather Thomson, as her condition at the time was giving him grave anxiety.

The history of her illness was as follows :—

Her father and mother had been spending part of the summer at a farm in the County Kildare, and during the last days of their stay three members of the family had suffered from attacks of diarrhœa. About a week after their return to Dublin the child Kathleen was suddenly seized one day about noon with a violent pain in her abdomen, accompanied later by vomiting and diarrhœa. As this continued almost incessantly during that day and night, Dr. Thomson was called in. When he saw her on August the 18th she was still in pain and the abdomen was still active, though the vomiting was less. Her temperature was 103° F. and her face flushed. The tongue was heavily coated and dry. He prescribed a castor-oil draught and liquid food only, but had considerable difficulty in persuading her mother that there was anything particular the matter with the child. She attributed her illness to "a feed of green apples" taken on the day before her attack. The child's condition for the next two days—August the 19th and

20th—grew steadily worse. The evacuations were now scanty, but frequent, of a grass-green colour, and occasionally mixed with dark blood. Her temperature rose to 105° F., her pulse to 130, and she was at times delirious. She had been complaining of pain and soreness in her arms and legs, and more than once, her mother said, she had lost for a time all power of moving a limb—now one limb, now another. At this stage I saw her late at night on August the 22nd, five days after the commencement of her illness. Her face and lips were deeply cyanosed; her temperature, taken in the groin, was 104·8° F.; the pulse was 140 and very weak. Respirations 34. She was stuporous. There was no rash of any sort on her skin, and her belly was soft, neither tender nor markedly distended. Her lungs were clear, but the first sound of her heart was muffled. She was passing everything under her. Though stuporous she was not unconscious, and when I turned her over to examine her back she cried a little, as if in pain. That morning she had for a time lost power in her right arm, and when I saw her again next day one of her legs was distinctly weak, but the jerks were present. The vomiting had stopped, the diarrhœa was less, and she seemed a little better, but the temperature was still over 103° F. Two days later, when I saw her again with Dr. Thomson, her condition otherwise was much the same, but she had developed an acute bedsore. It was this complication which induced her mother to allow her to be brought into hospital—a suggestion she had refused point blank after my second visit—the liquid stools and urine, both passed involuntarily, having accentuated the trouble of tending the bedsore. She accordingly arrived at the Meath Hospital on August the 27th. By this time her temperature was becoming very irregular, ranging from 98° F. to 103° F. Her pulse-rate was 110–120; respirations 28. There was albumin in the urine, but no tube casts. With the slower heart a soft blowing murmur was plainly audible in the pulmonary area. Her lungs were still clear. The child had wasted a good deal and was troubled with pain and stiffness in her joints and muscles. She had a deep, angry-looking bedsore over the sacrum. Nothing noteworthy could be found in her blood either morphologically or culturally, but I probably did not take enough blood to give culture a fair chance. There remained the fæces. I brought some down to Trinity College, where I happened to be doing some work on typhoid and paratyphoid cases with Dr. John Speares, and put it through the same routine method as was then being very generally carried out in tracing carriers.

The method, briefly, is to inoculate tubes of peptone water enriched by the addition of a little very dilute brilliant green with an emulsion of the fæcal material.

This dye, like the aniline violets, as pointed out by Prof. McWeeney, has the property of inhibiting the growth of all cocci, and all bacilli, except those which are also Gram negative and particularly favouring the typhoid-colon group. From the brilliant green tubes sub-cultures are made on some medium containing a fermentable sugar and an indicator, this step separating all organisms into two groups: those which do, and those which do not, ferment the sugar in the medium. By this means a bacillus was isolated —evidently present in considerable quantity—a bacillus which, on being grown on other differentiating media, proved to be no member of the typhoid-colon series, but a proteus, one of a group of putrefactive microbes hardly ever pathogenic, and very common. But not being quite sure what it was at the time, I tried the experiment of doing a Widal test with it against the child's serum, using typhoid and paratyphoid strains as controls.

Her serum failed to agglutinate the latter in any dilution within reason, *i.e.* down to 1 in 10, whereas it did agglutinate the proteus rapidly and typically in dilutions up to 1 in 150. This was about the middle of September.

Meantime the bedsore had healed. The murmur had disappeared, but the child was making no real headway. Diarrhœa and vomiting had long since stopped, giving way to most obstinate constipation. I tried all sorts of drugs, besides quantities of liquid paraffin, but the only means of getting satisfactory motions was by enemata. She had developed a sort of periodic fever ranging from 96° to 101–2° F. Her chart was more like a sphygmogram than a temperature record. Her body was wasted to a skeleton, and visible peristalsis could sometimes be seen through her scaphoid and almost transparent abdominal wall. Her eyes were hollow and staring, and her tongue quite clean and glazed. Her legs had become bent up and were growing partially ankylosed. Still her appetite was pretty good, and I had substituted a light nourishing diet with plenty of fruit and cream for the strict fever diet of albumin water, meat-juice and whey of the earlier weeks of her illness. But the fever of an intermittent and periodic type continued. The constipation was as obstinate as ever, and she became so emaciated that the other patients were afraid to look at her. I had made a vaccine from the cultures when I found her blood reacted to the microbe, and I determined to try it. The first dose, given on October the 4th—only seven millions—nearly finished her. That night she began vomiting again, and though her pulse only rose from 82 to 92, she was very much weaker, and all next day she lay in the stuporous state noted at the beginning of her illness. On the third day she was better again. It may have been a coincidence, but the symptoms recurred in a milder form a week later after a second dose of the vaccine, this time of ten millions. Ten days later, after four days' interval from fever, she had a third dose of fifteen millions. Her temperature rose from 96° to 101° F. fell in twenty-four hours to 97° F., and never again went above normal till she left hospital.

After the next injection her bowels began to act spontaneously, and she very soon looked a different creature, putting on weight and getting her colour back. Her legs straightened out, and she went home quite well on November the 27th. I continued the vaccines each week, giving twenty-five millions as a maximum until she left.

The striking features of this case then were:

The sudden attack of gastro-enteritis, with sharp hæmorrhage from the bowel, and accompanied by high fever and delirium: the pain in the muscles and joints, such as are found in Henoch's purpura: the transient paralysis of the limbs, probably of toxic origin: the acute bedsore: the long-protracted fever of a hectic type with extreme emaciation: the reaction of her blood to a proteus-like organism recovered from her fæces: and the almost dramatic improvement and ultimate recovery after the administration of a vaccine made from this organism.

I think this must have been a genuine case of infection with *Bacillus proteus*. The similarity to cases of severe food poisoning was striking, and that this organism was at least one of the infecting agents was shown by the fact that the child's blood had formed a powerful antibody against it, while the behaviour of the case following the vaccine administration, even if it proves nothing, is at least suggestive. From what source the infection was derived it is hard to say. It is possible that it came from the water at the farm, an ordinary surface well, which had been filled with flood water in the rains of last August. The microbe may have been ingested then, and under the influence of an accidental catarrh brought on by the unripe apples may have become parasitic, and determined the onset of a severe toxæmia. Proteus, however, is a very rare cause of disease; it is not, however, unknown as such.

Note on the Organism.

A small, exceedingly motile bacillus, decolourised by Gram's staining. It grew on ordinary agar, and in broth forming a slight scum after three days.

It formed small colourless colonies on McConkey's Endo, and Conradi plates. It scarcely fermented glucose in Durham's tubes, and lactose not at all.

It produced *no gas* in either.

It grew in milk, *without* curdling, but digested it fairly rapidly. It completely liquefied gelatine after eleven days' growth.

In nearly every important particular this description corresponds with that of *B. proteus*.

A CASE OF PROLONGED HYPERPYREXIA IN A CHILD WITH A MID-BRAIN TUMOUR.

By C. Violet Turner, M.D.Lond.,

House Physician, National Hospital for the Paralysed and Epileptic; late House Physician, Hospital for Sick Children, Great Ormond Street.

The following case is recorded as an unusual instance of prolonged hyperpyrexia associated with a tumour in the mid-brain. The occurrence of hyperpyrexia as the terminal manifestation of cerebral lesions in children is well known, and the extreme variations of temperature which occur in meningococcal meningitis, middle-ear disease, and other infective intracranial conditions, are also well recognised; but the prolonged hyperpyrexia exhibited in the following case would seem to be an unusual manifestation of a mid-brain lesion or its consequent hydrocephalus.

A female infant, aged 1 year and 6 months, was brought to the Hospital for Sick Children, Great Ormond Street, on October the 19th, 1915, on account of "stiffness and unconsciousness."

The history was that of an indefinite failure of health for about six months. Two months before admission the child had stopped talking, become dull and listless, and constipation was troublesome. For two weeks the legs had been stiff and crossed, and the pupils dilated. The child did not attempt to sit up, and collapsed when placed in a sitting position. For the last three days her eyes had become staring, and she did not know her parents. The stiffness had increased, opisthotonos had been noticed one day before admission, and squint and convulsions on the day of admission. There had been no vomiting and no indication that the child had suffered from headache during the illness.

On admission the child was pale but not wasted. She was quite unconscious, with half-open fixed eyes. The whole body was rigid, and the back arched with some head retraction. All four limbs were rigidly extended, and there was adductor spasm of the legs. There were general convulsive movements of the head, eyes, hands, and feet. Hydrocephalus was present, the circumference of the head being 20¼ in.; the fontanelle was very tense. The pupils were equal, moderately dilated, and inactive. There was slight double internal strabismus. All the deep reflexes were exaggerated; the plantar reflexes were extensor, and the abdominal absent.

The temperature was 103° F., the pulse 172, and respirations 60. Examination of the heart, lungs, and abdomen showed nothing abnormal. Lumbar puncture was performed at once, and about ʒiiss. of clear colourless fluid escaped under great pressure. The fontanelle became soft immediately, and the convulsions ceased shortly after; the eyes opened widely, and there was no squint.

Examination of the cerebro-spinal fluid showed no increase in albumin; there was some immediate reduction of Fehling's solution; no cells were seen, and the cultures were sterile. It was therefore concluded that the symptoms were not due to any form of meningitis, which had been the provisional diagnosis made before the examination of the cerebro-spinal fluid.

The rigidity passed off gradually, and the next day (October the 20th) the limbs were almost flaccid. The child was still unconscious, could not swallow, and was very constipated. The optic discs showed a low grade of optic neuritis.

The following day the spasticity returned, and the fontanelle became very tense. From this time onwards until death, thirty days after admission, the child lay in a state of extreme rigidity in the extended position, the feet in a position of marked plantar flexion, and the thighs adducted. The upper limbs were so rigid that at times they did not rest on the bed; the forearms were persistently pronated so that the palms were turned outwards, and the fingers flexed over the thumb, which was held across the palm. Opisthotonos was only present once—on November the 14th. The jaws were usually tightly clenched, so that the child had to be nasally fed throughout, except on a few occasions when she was able to swallow. Champing movements of the jaw were present at times, and on November the 7th convulsions recurred. There was no persistent squint. Sometimes there was a double internal strabismus, and sometimes a divergent squint. The pupils were usually moderately dilated, equal, and inactive. On November the 10th the left was noted as being larger than the right. Lumbar puncture was repeated twice (October the 22nd and 29th); neither time was the fluid under such great pressure as on the first occasion, nor did the fontanelle become depressed afterwards. The albumin content of the fluid on October the 22nd was ·025 per cent., and on October the 29th ·06 per cent.; the cells were more numerous than normal, nearly all were mononuclears, and the Wassermann reaction was negative.

The temperature was the most remarkable feature of the case; it was irregular and intermittent throughout, but from October the 23rd to November the 3rd it showed very great variations; once, or sometimes twice, every twenty-four hours it would rise to 105°, 106°, or 107° F., and then rapidly fall, so that in eight or twelve hours it would be normal or subnormal. The maximum was reached on October the 31st, when at 7 a.m. the axillary temperature was 109° F. and the rectal temperature 111° F. Four hours later it was down to 100° F., and in eight hours it was normal. The rises occurred most frequently at 11 p.m., but this was not constant; the temperature never fell below 97° F. The pulse-rate varied in proportion with the temperature; it became uncountable when the temperature was high, and only 80–100 when the temperature was down; the respiration-rate showed corresponding variations. During the last week the respirations were grouped, and became Cheyne-Stokes in character before death.

Diarrhœa, vomiting, and marked wasting were terminal features; for forty-eight hours before death on November the 17th the extremities were icy cold, and the last twenty-four hours the temperature was so low as to be unregisterable by an ordinary clinical thermometer.

Post mortem a solid rounded tumour was found situated in the mid-line in the region of the corpora quadrigemina. The tumour measured 3·25 cm. in the antero-posterior diameter, 3 cm. in the transverse diameter, and 2·5 cm. vertically. It did not involve the pons, optic thalami, or the cerebellum, but was pressing forward into the aqueduct of Sylvius, causing a block, with resulting distension of the third and lateral ventricles. The whole cerebral cortex was thinned from this distension, and there was a small area of softening in the left occipital region.

Microscopically the section of the tumour showed it to consist of

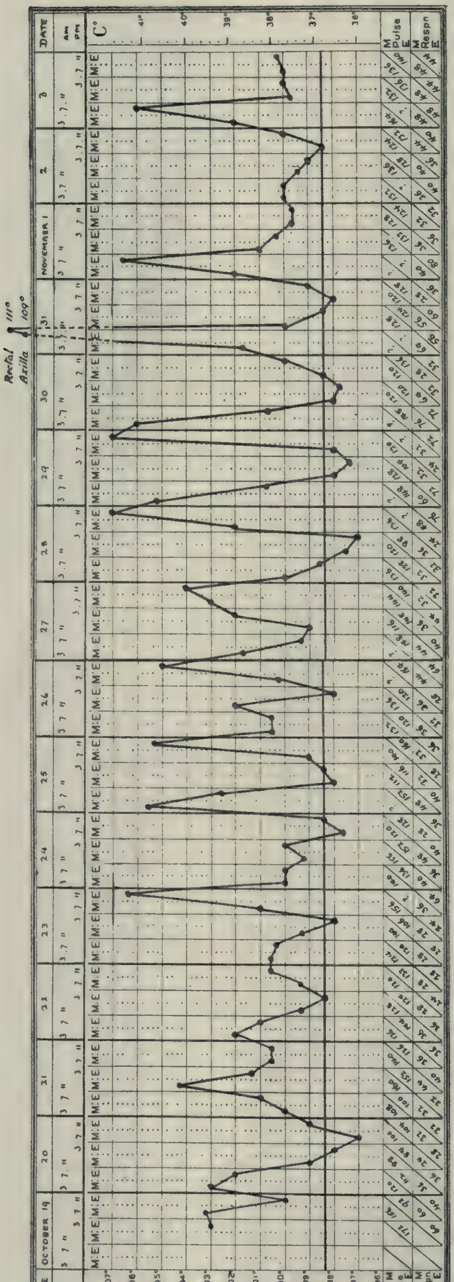
DATE
Am Pm
F°
C°
OCTOBER 19
20
21
22
23
24
25
26
27
28
29
30
31
NOVEMBER 1
2
3
M E
107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°
41° 40° 39° 38° 37° 36°
Rectal 111°
Axilla 109°
Pulse M E
Respn M E

FIG 1.

numbers of round cells, uniform in size, with but little intercellular matrix. In parts the growth had undergone cystic degeneration, leaving a hyaline material without cell elements.

No definite diagnosis of the case was made during life. A cerebral tumour, possibly pontine or cerebellar, was suspected, though the temperature phenomena were unusual in this connection; post-basic meningitis, in which the same type of pyrexia occurs, was considered unlikely on account of the condition of the cerebrospinal fluid, while thrombosis of the longitudinal sinus was suggested by the combination of hyperpyrexia and rigid diplegia.

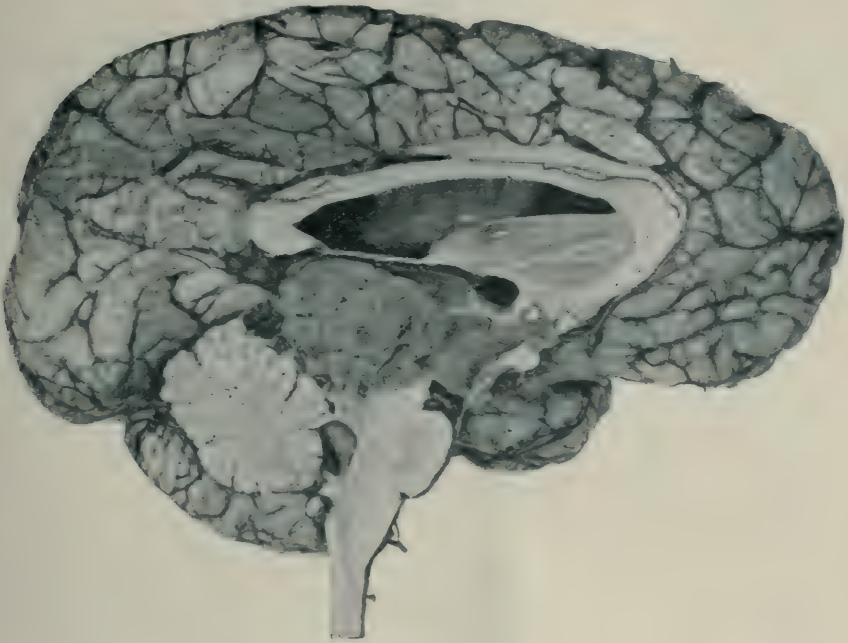

FIG. 2.

I have been unable to find any similar case recorded in the literature, and, apart from the terminal hyperpyrexia of cerebral lesions, there is no mention to be found of any such condition occurring in cases of cerebral tumour.

C. R. Box,* in 1905, described a complex of symptoms corresponding very closely to those in the present case, in connection with posterior basic meningitis. He terms them "crises," and attributes them to temporary increase in the pressure in the ventricular system of the brain, as in all the five cases he described hydrocephalus was found post mortem ; but he is unable to account either for the coincident rise of pulse-rate or the periodicity of the crises.

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* "Crises of Posterior Basic Meningitis," 'Trans. Clin. Soc.,' 1905, xxxviii, p. 30.

I am much indebted to Dr. A. F. Voelcker, under whose care the child was while in hospital, for kindly allowing me to publish the case.

GLANDULAR CARCINOMA OF THE UTERUS IN A CHILD AGED 2½ YEARS.*

By Joseph E. Adams, M.S., F.R.C.S.,

Surgeon, East London Hospital for Children; and Surgeon in Charge of Out-Patients and Children's Department, St. Thomas's Hospital.

History.—For three weeks before admission there had been a discharge of blood from the vagina, steadily increasing in amount and frequency. The child had complained of no pain, but the mother had observed some fulness in the child's abdomen. Bladder and rectum acted normally. There was no history of carcinoma in the family; the father is aged 28 years and the mother 25 years, and this is their first child.

On admission the child looked well nourished and healthy. Both clots and fluid blood were escaping from the vagina. Examination of the abdomen revealed a palpable tumour in the hypogastrium, situated between the bladder and the rectum, partly cystic in consistency. A catheter specimen of urine contained no blood.

Operation on June the 18th, 1913.—Abdomen opened through left paramedian incision. The recto-vesical space was found to be occupied by a rounded cystic growth about the size of half a tennis-ball, which obscured the position of the uterus but was obviously attached to the roof of the vagina; blood and clot escaped from the vagina during the operation. The peritoneum over the tumour was incised and a cystic hæmorrhagic mass was entered and a portion was removed, as it was too adherent for complete removal. The peritoneal covering was then sutured and the abdomen closed. The vaginal hæmorrhage ceased for a few days after the operation, but then it reappeared and became more abundant; the bladder had to be emptied by catheter, and there was some blood in the urine; the child gradually lost ground and died on August the 24th, two months after the operation.

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* A paper read before the Obstetrical and Gynæcological Section of the Royal Society of Medicine on May the 7th, 1916.

Post-mortem examination.—The body was well nourished, but showed signs of recent wasting. The peritoneal cavity contained no free fluid, but the bladder was distended with urine, and the coils of intestine were also distended. Occupying the centre of the pelvic cavity was a large growth completely covered by peritoneum, adherent to the posterior surface of the bladder and closely connected with the rectum posteriorly. The operation incision in the peritoneum was firmly healed. Several enlarged mesenteric glands were found and removed for microscopy. There was no evidence of secondary deposits in any of the abdominal organs. Both kidneys exhibited some degree of hydronephrosis. The lungs were broncho-pneumonic, and there were numbers of enlarged glands in the thorax and neck. The pelvic organs were removed entire for further examination.

Pathological Report by Dr. Athole Ross.

Macroscopic appearances.—The specimen consists of the uterus and its appendages, the bladder, vagina, and a portion of the rectum. The sagittal section shows that both body and cervix of the uterus are largely replaced by breaking-down growth, which had extended into the recto-uterine pouch and grown into the cavity of the vagina. In each half of the divided specimen the corresponding ovary and tube are present and intact. The tumour shows a network of supporting tissue and a number of areas where hæmorrhage had obviously occurred. At one spot a small portion of growth is seen protruding through the inner wall of the bladder.

Microscopical appearances.—The growth shows the structure to be a carcinoma with both columnar and cuboidal cells having a somewhat tubular arrangement. It will be noticed that many of these tubules are provided with a capillary and a minimal amount of intervening connective tissue. There are many areas of degeneration, and here the tubular arrangement is lost and the cells are grouped irregularly. The interstitial tissue is small in amount. The growth appears to fall into the group of carcinomata arising in the glandular epithelium of the body of the uterus. Examination of the lungs and bronchial glands proved them to be affected with caseating tuberculosis but unaffected by growth.

Royal Society of Medicine.

LARYNGOLOGICAL SECTION.

March the 3rd, 1916.

Three Foreign Bodies Removed from the Bronchi by Upper Bronchoscopy.—Dr. T. Guthrie.—(1) *Piece of Mutton-bone.*—A boy, aged 10 years, while eating his dinner, was seized with a violent fit of coughing which subsided after a few minutes. Two days later there were rise of temperature, cough and expectoration, and signs of pneumonia gradually developed in the left lung. Nine days after the accident, upper bronchoscopy under general anæsthesia showed the bone lying in the left bronchus about $\frac{1}{3}$ in. from its orifice. Removal by means of Brünings' forceps was followed by rapid recovery.

(2) *Piece of Metal Pencil-case.*—The patient was a boy, aged 11 years. A piece of a broken pencil-case had been inhaled on the previous day and lay with its hollow end upwards in the branch of the main bronchus leading to the lower lobe of the right lung. The only difficulty consisted in the fact that on grasping one edge of the object with Brünings' forceps its opposite sharp margin tended to become embedded in the bronchial mucous membrane.

(3) *Glass-headed Pin.*—The patient was a girl, aged $3\frac{1}{2}$ years. The pin, which measured slightly over 2 in. in length, lay head downwards in the left main bronchus, the point being at the carina. It was said to have been "swallowed" two days previously. Removal was effected by means of Paterson's forceps passed through a 5 mm. tube.

Bilateral Dacryocystitis in a Syphilitic Child.—Mr. C. Potter.—Girl, aged 12 years. No history was obtained as the child was sent from a workhouse infirmary. On examination, both sides of the nose were full of offensive-smelling crusts and the septum was almost completely gone; there was atresia of the left nostril and scarring of the post-pharyngeal wall. The uvula was absent.

Philadelphia Pediatric Society.

March the 14th, 1916, Dr. John F. Sinclair, President, in the Chair.

Pyelo-cystitis, and Metastatic Abscesses, following Tonsillitis.—Dr. H. Brooker Mills and Dr. George A. Sowell.—A boy, aged 2 years, was taken ill on December the 9th, 1915, with tonsillitis, from which he recovered in three days. On December the 16th the temperature suddenly rose to 103° F. Fever continued for several days and then dropped to normal for several days, when it suddenly rose again. On December the 27th the patient was admitted to the Samaritan Hospital, where the physical examination was found to be negative, except for some swelling on the instep of the left foot, at the metatarso-phalangeal joint of the right big toe, and the dorsal surface of the left hand. All these swellings subsequently developed into abscesses, which were opened and drained a few days later.

Examination of urine at this time showed albumin, many pus cells, and a few red blood cells, but no casts. The leucocytes were 18,000 with 72 per cent. of polynuclear cells.

The Widal and paratyphoid tests were negative. Staphylococcus albus was obtained from the pus from the abscesses, from the urine, from the blood cultures, and from the tonsils when they were removed.

Dr. Mills and Dr. Sowell felt it was proved pretty conclusively that the tonsillitis was in part, if not entirely, the ætiological factor in producing the pyelo-cystitis, while the metastatic abscesses were complications of the latter.

Composite Weight Charts of Breast-fed, Partial Breast-fed and Bottle-fed Babies.—Dr. William N. Bradley.—These babies were all weighed undressed, on a scale which could be accurately balanced to a quarter of an ounce. The charts represented all the babies under one year, cared for from October the 1st, 1914, to October the 1st, 1915. No allowance was made for illness, such as colds, coryza, bronchitis, pneumonia, or diarrhœa; nor for any cases of chronic diseases. In other words, they were not selected cases.

The artificial feedings prescribed for these babies were all diluted milk, with malt sugar, and were given in such strength and quantity as suited the needs of the individual baby. They all had ignorant mothers, 90 per cent. of whom were Italians; therefore simple mixtures were necessarily prescribed, as teaching complicated by home modification in these instances would be absolutely impossible. These cases were all followed up very systematically by nurses who visited the home usually once a week.

The curves were made from the individual charts of all the babies coming to the Starr Centre. All those of the same age were averaged in order to construct the composite curve, and they were compared with the normal weight curve suggested by Dr. J. P. Crozer Griffith.

There were 417 babies entirely breast-fed, 146 bottle-fed, and 87 partly breast and partly bottle-fed In studying the charts it was noticed that the breast-fed babies corresponded with the normal curve from 6 to 9 months and then averaged a somewhat higher weight than normal, but at about 11 months failed to gain on breast milk alone. Dr. Bradley considered that this was quite conclusive evidence that at this time they should be started on supplementary foods. Entirely bottle-fed babies did not come up to the normal weight until the eleventh month. Partly breast and partly bottle-fed babies reached normal at about 8 months.

In 1912 only 48½ per cent. of the babies were breast-fed. By doing everything possible to induce the mothers to prolong breast-feeding this percentage had been raised in two years to 73 per cent.

The Value of Wassermann's Test in Mentally Deficient Children —An Inquiry of Seventy-five Cases.—Dr. Alfred Gordon.—After comparing the knowledge of specific involvement of the nervous system before and after the Wassermann era the author pointed out the practical importance of the subject from a therapeutic standpoint. He then gave a detailed account of his personal study of seventy-five cases of mental defects of various degrees, and came to the conclusion that some of these cases were amenable to treatment and improvement. The detection of cases with positive Wassermann test in the blood-serum and spinal fluid was highly important. Every child whose mentality, with or without the Binet-Simon test, demonstrated a mentality below normal; also every child who presented no external evidence of syphilis, but who suffered from various neurotic phenomena as well as from typical epilepsy; also all imbeciles and idiots, should be submitted to a Wassermann test.

The author found that considerable improvement might be obtained in some cases when salvarsan was promptly and early enough applied. He had found a large percentage of positive blood tests in mentally defective children, and therefore the value of such tests was enormous from a practical standpoint.

Dr. Gordon said that in many series there had been 20 per cent. of positive reactions reported, and in some series the percentage was as high as 50 or 60.

With the present improvement in technique, Wassermann reactions were much more reliable than formerly.

With a history of tuberculosis, alcoholism and syphilis in the same family it was very hard to determine which of these factors was instrumental in causing feeble-mindedness. If, however, the patient gave a positive Wassermann he felt that treatment should be instituted, and if some of these cases improved there was sufficient justification for treating them. In his opinion iodides were very beneficial and should be used in such cases.

Fever in Philadelphia during 1915.—Dr. MAURICE OSTHEIMER stated that 1072 cases of scarlet fever had been reported to the health authorities in 1915, 100 more than one half the number reported during 1914 (1944), and less than a third as many as in 1913 (3400). This was a morbidity rate of 64 per 100,000 as compared with 117 in 1914 and 208 in 1913. August, 1915, had only 29 cases; December, 147 cases. Of the 1072 cases, 529 were male (513 boys) and 543 female (501 girls). This left only 58 adults who contracted scarlet fever during 1915. Seventy-five per cent. of cases were reported to the health authorities within three days of illness; 90 per cent. within five days.

Distribution of Scarlet Fever by Districts, 1915.

Central Philadelphia, 6 wards	27	cases, or	4·5	per ward.
Frankford, 3 large wards	21	,,	7	,,
North Philadelphia, 21 congested wards	439	,,	21	,,
West Philadelphia, 6 large wards	160	,,	27	,,
South Philadelphia, 9 congested wards	282	,,	31	,,
Germantown, 3 large wards	143	,,	48	,,
Scarlet fever cases removed to hospital			625 (58·3	per cent.)
Deaths in hospital			21 (3·4	,,
Scarlet fever cases treated at home			447 (41·7	,,
Deaths at home			5 (1·1	,,

Secondary Cases of Scarlet Fever:	
When primary case remained at home	117 (10·9 per cent.)
When primary case in hospital	31 (2·9 ,,
Hospital return cases	33 (3·1 ,,
Late secondary cases	3 (0·28 ,,
Total secondary cases	184 (17·18 ,,
Contact known in school	100 (9·3 ,,
Contact known elsewhere	117 (10·9 ,,
Total cases with known contact	401 (37·4 ,,
Isolation in Scarlet Fever:	
Good, with trained nurse	112 (10·4 ,,
One person nurse, another housekeeper	279 (26·1 ,,
Same person nurse and housekeeper	681 (63·5 ,,

The last figures included most of those cases which later were removed to the hospital.

Scarlet fever during 1915 was remarkable for the following reasons:

(1) The lowest number of cases reported during any one year since 1900 when accurate statistics were first begun, 1072 cases.

(2) The lowest number of cases removed to the hospital during any one year, 447.

(3) The lowest number of deaths from scarlet fever during any one year, 26 deaths, 2·4 per cent.

(4) The lowest death-rate per 100,000 during any one year, 1·5.

(5) The lowest number of deaths occurring in the hospital during any one year, 21 deaths, 3·3 per cent.

(6) The lowest number of deaths occurring among cases treated at home during any one year, 5 deaths, 1·1 per cent.

Abstracts from Current Literature.

Feeding of Infants and Children.

Breast-feeding: some functional requirements of the gland and of the infant ('*Lancet*,' 1915, II, *p.* 115).—**H. K. Waller** emphasises the necessity for the institution of normal, uninterrupted, and successful breast-feeding until an age at which milk no longer forms the chief constituent of the infant's diet, and discusses the importance and need for correlation between (1) the periodicity in the secretion of milk, (2) the size of the meals, and (3) the infant's appetite. J. ALLAN.

Some points in the management of breast-feeding ('*Arch. of Ped.*,' 1915, XXXII, *p.* 35).—**F. Van der Bogert.**—Loss of weight in babies on the breast should be counteracted by the addition to the dietary of one or more bottles of cow's milk. Absence of milk from the breast demands similar treatment. Skin eruptions, loose bowels, irritation of the buttocks, and colic, are caused by overfeeding and indigestible milk. The indications are therefore to feed at regular intervals, and to regulate the life of the mother, by giving her three good nutritious meals a day. Acute diseases in the infant, such as pneumonia, should be met by drawing off the mother's milk and then feeding the patient with it. CHRISTOPHER ROLLESTON.

The influence of menstruation on breast milk (*'Amer. Journ. Dis. Child,'* 1915, IX, *p.* 374).—**C. G. Grulee** and **F. C. Caldwell.**—A baby born with a hare-lip and cleft palate was nursed for nine months by a specially devised breast pump, which Caldwell describes (*ibid., p.* 381). The mother's menstrual period began six weeks after birth, and continued through her nursing. A distinct relation was found between the quantity of breast milk and the occurrence of the menstrual period. There was a period of increase of breast milk beginning with the first day of menstruation, and lasting for ten days to two weeks thereafter. There then occurred a diminution in the quantity, which reached its minimum four to seven days previous to menstruation. J. D. ROLLESTON.

The passage of alcohol through the mammary gland (*'Riv. di clin. pediat.,'* 1915, XIII, *p.* 693).—**G. Frontali,** from his experiments on goats, women, and infants at the breast, finds that alcohol passes into the milk both in women and goats, and the curve of elimination is the same in both cases. Elimination is appreciable 5 to 15 minutes after ingestion, and reaches its maximum 1½ to 5 hours afterwards, then decreases rapidly, and ceases after 5 to 26 hours. The duration of elimination increases in proportion to the amount of alcohol taken. The maximum concentration of alcohol in the milk increases in a degree greater than arithmetical progression following the ingestion of 1, 2, 3, and 4 c.c. of absolute alcohol per kilogram weight of animal. For a greater quantity than 5 c.c. it diminishes. The amount of lacteal secretion decreases with the increase of alcohol concentration. The total elimination is always below 2 c.c. absolute alcohol in 24 hours. The administration of 2 c.c. alcohol per diem to healthy infants (for two weeks), and to spasmophilic infants (for 9 to 11 days) produced no noticeable effects. VINCENT DICKINSON.

Some essential points in infant feeding (*'New York Med. Journ.,'* 1914, C, *p.* 921).—**E. S. Rimer.**—Five food elements are absolutely necessary to the growing child—fat, sugar, proteid, mineral salts, and water. Fats are the most important source of animal heat, and are necessary to the development of bone and nerve. Their caloric value is more than twice that of sugar or proteid. Fat forms 20 to 30 per cent. of the fæcal mass. Its starvation produces nitrogenous waste. Excess of fat appears as fat curds in the stools, which become pasty white; this excess may become harmful when the fat-splitting enzyme is deficient. Sugar cannot replace waste, but supplies body heat, and is readily converted into body fats. Continued excess produces intestinal fermentation, with gas and sour, watery stools. Proteid is a tissue builder, and repairs waste of cellular tissue. Salts, such as phosphates of lime and magnesia, are demanded by the rapid growth of the skeleton; they are abundant in both human and cow's milk. Feeding by caloric values of food must be done with care, and with an appreciation of the individual peculiarities of the infant. The normal breast-fed baby varies greatly in the amount ingested at different times while in perfect health. It is wiser to be guided by clinical observations of general contentment, with normal stools and reasonable gain in weight. Rimer emphasises the importance of fresh, clean, raw milk in feeding, with its vitamines, hormones, and natural ferments intact; but all milk not above suspicion should be sterilised or pasteurised. He ends by discussing the effects of overfeeding and the bacteriological diseases caused by milk.

J. PORTER PARKINSON.

Artificial feeding of infants ('*New York Med. Journ.*,' 1915, CII, *p.* 1188).—**I. H. Goldberger** suggests that artificial feeding of infants is made too complicated. He discusses it under four headings: Quantity, strength, frequency, and the formula. (1) Quantity. This should be 1 oz. more than the age of the child up to seven months, and never more than 8 oz. altogether, after which soft diet should be started. (2) Strength of feeds. At birth to one month there should be given 1 per cent. whole milk with 5 per cent. sugar, which gives 1 per cent. fat, 6 per cent. carbohydrate, and 1 per cent. proteid. There should be a gradual increase of 0·1 per cent. in the percentage of fat and proteid each week so that at two months it is 1·4 per cent. fat, 6 per cent. carbohydrate and 1·4 per cent. proteid, and at three months 1·8, 6, and 1·8 per cent. respectively. (3) Frequency. It has been shown that in bottle-fed infants milk passes out of the pylorus in three hours, and the writer recommends this interval between feeding at all ages, giving seven bottles daily, including one night feeding. From six to nine months five bottles at four-hour intervals are given, and after that night feeds are omitted. The great point is punctual feeding. (4) The formula employed contains 3 per cent. fat, 7 carbohydrate and 3 proteid, made of 30 oz. whole milk, sugar of milk 2 oz., lime water 2 oz., barley water 8 oz. This is a suitable mixture for a child of six months old. From this the other percentages may be calculated. Infants should not be fed entirely by rule, but attention should be paid to individual peculiarities. Examination of the stools should be made from time to time, and the infants should be weighed each week, a gain of 4 oz. to 6 oz. a week being a good average. Orange or prune juice should be given daily as a preventive of scurvy. If the child be constipated, malt sugar or dextrimaltose should be given instead of lactose. A small amount of zwieback or cream of wheat may be given in the seventh month, and at eight months a little meat broth with vegetables. J. PORTER PARKINSON.

Sanitary study of condensed milk ('*New York Med. Journ.*' 1915, CII, *p.* 1073).—**W. H. Park, M. C. Schroeder** and **P. Bartholow** conclude that the minimum standard of milk suitable for condensed milk should be definitely enforced. The present method of production leads to a wide difference in the finished product. Most condensed milks have a high bacterial count owing to growth of organisms left alive after the heating process or added by contamination. Steps should be taken to make standards to cover the following points: Quality of the milk used, chemical and bacteriological; the sanitary conditions of the manufacture; prevention of bacterial infection after condensing; chemical and bacteriological requirements of the finished product; statements on label showing approximate percentage composition. The clinical conclusions are: The value of condensed milk depends on the care and cleanliness of its manufacture. There is a want of evidence that the bacteria or chemical constituents affect the health, but only the best quality is recommended for infant feeding. Sweetened condensed milk, properly prepared from whole milk, has value as an infant food, in those children who are unable to digest the fat of cow's milk. Sweetened condensed milk is constipating, and there is no evidence that it produces diarrhœa. Intestinal irritation caused by milk is an effect of the liquid portion when freed from fat, sugar and protein. Sugar appears to have a food value superior to fat as shown by Hellenson.

J. Porter Parkinson.

Homogenised milk, its possible application to infant feeding (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 13).—**Maynard Ladd**.—Homogenisation of milk means the application of great pressure whereby the fat globules are crushed and torn and so incorporated with the other elements of the milk that they can no longer separate from the other constituents of the liquid. Milk so treated keeps sweet almost indefinitely, and is far more readily absorbed than ordinary milk. Artificially fed infants are frequently intolerant of the fats of cow's milk, although they thrive on human milk, which contains more fat than that of the modified cow's milk given to babies. The author has tried an homogenised mixture of olive oil and malt soups in such cases. One case of persistent vomiting gained 2 oz. a day for three weeks, and in another of persistent wasting during the second year of life 22 oz. were gained in ten days.

Christopher Rolleston.

The electrical treatment of milk for infant feeding (*'Journ. State Med.,'* 1916, xxiv, *p.* 97).—**J. M. Beattie** briefly reviews the experimental researches regarding the electrical treatment of milk, and gives an account of the practical working of a large scale plant erected for this purpose in the Liverpool Corporation Milk Depôt at Earle Road. He summarises the results obtained at the Earle Road Depôt, which are confirmatory of the results obtained with the experimental plant, as follows: (1) This electrical method of treating milk will destroy the disease-producing bacteria which are found in it. (2) The main milk-souring bacteria are either completely destroyed, or, if some members of this class are left, they may be neglected as far as the keeping power of the milk is concerned for ordinary household use. (3) The milk is not sterilised in the strictest sense of the word, but there is a reduction in the total number of bacteria by 99·93 per cent., and it is pointed out that even in heat-sterilised milk and in pasteurised milk the whole of the bacteria are not destroyed, for the reason that some bacteria resist boiling temperature for some minutes, and that at temperatures below the boiling-point they may resist for prolonged periods. This difference is, no doubt, also exhibited towards electricity. (4) The milk will keep perfectly sweet for at least three or four days after treatment, and this period will cover distribution and use in all cases of household milk supplies. The keeping power is much prolonged if the milk is protected from after-contamination. (5) The chemical constitution of the milk, as indicated by the reports of the City Analyst, is, so far as can be ascertained by chemical analysis, unimpaired, and the taste is not in any way altered. The milk, from this point of view, may be described quite accurately as "raw milk." (6) As will be seen from the paragraphs relating to animal inoculation, the milk is not only rendered non-pathogenic as regards ordinary bacteria, but in cases in which the control supply was tuberculous the electrically-treated milk was non-tuberculous. (7) The milk after treatment is, in his opinion, perfectly satisfactory as a food for infants.

J. Allan.

The citrated whole-milk method in the feeding of infants (*'Practitioner,'* 1916, xcvi, *p.* 144).—**E. Pritchard** considers this treatment is unsound as it does not permit of any adaptation to the child's digestive powers, and gives little scope for the study of variations on the diet. He considers dried milk has all the advantages and few of the disadvantages of dairy milk. F. R. B. ATKINSON.

The use of undiluted citrated milk in the feeding of infants ('*Practitioner*,' 1916, XCVI, *p.* 154.—**R. Carter** has had good results with undiluted citrated milk, but has had better results by abandoning routine methods and concentrating more on the individual requirements of the patient. F. R. B ATKINSON.

Experience with malt soup for institution marasmus ('*New York State Journ. Med.*,' 1915, XV, *p.* 345).—**T. S. Southworth** speaks enthusiastically of the value of malt soup mixtures as a life saver, or at least prolonger, of life, in marasmic infants. Flocculent white and green stools, as a rule, become smooth and brownish within 24 to 48 hours. Infants who seemed doomed ceased to lose weight, and in many instances promptly showed moderate gains. The change in the character of the stools is the most encouraging feature of malt soup feeding. The author discusses the rationale of this treatment, and also deals with its scientific application.

J. ALLAN.

Recent observations in the use of soy bean in infant feeding ('*New York State Journ. Med.*,' 1916, XVI, *p.* 83).—**J. F. Sinclair** first employed soy bean, because of its high protein and fat content, as a weak gruel to replace barley water, tea, and other liquids in gastro-intestinal disturbances in an effort to check the weight losses which occur so frequently. In this it has proved most efficient. He has used it in seventy-four cases of infants under three years of age who were ill with summer diarrhœa. His custom was to place the infant on soy bean gruel at once upon admission to hospital, and to add no milk until the stools appeared markedly improved. Then milk was added cautiously to the gruel as the condition of the stools warranted the increase. In no case has any bad result been noted from the use of soy bean. The author strongly urges its usefulness in the treatment of summer diarrhœa, in various intestinal disturbances, and in marasmus. It is well borne, readily digested, and by reason of its fat and proteid content furnishes the necessary pabulum to nourish the sick infant.

J. ALLAN.

The influence of posture on digestion in infancy ('*Amer. Journ. Dis. Child.*,' 1915, IX, *p.* 261).—**G. H. Smith** and **L. H. Le Wald** recommend the following routine in feeding every infant. Before feeding he should be held upright. The erect posture favours the eructation of air, while the horizontal prevents it and is thus an important cause of vomiting, colic, indigestion, and disturbed sleep. Immediately after feeding he should again be held up against the shoulder of the mother or nurse and may be patted on the back or be pressed gently in the epigastrium to encourage eructation. After eructation he should be put down to sleep, preferably in the prone position and with the head of his bed raised. Habitual tongue-suckers must be held up several times between feedings as they constantly swallow air. Feeding should be given at as long intervals as possible, depending on the gastric capacity and total daily requirements. A feeding should not be taken too slowly, 5 to 10 minutes are enough as a rule; 15 minutes should be a maximum time at bottle or breast.

J. D. ROLLESTON.

The amount of free hydrochloric acid in the gastric contents in infants ('*La Pediatria,*' 1915, XXIII, *p.* 167).—**G. Finizio** finds that an infant's gastric contents taken 30 to 60 minutes after suckling do not show any free hydrochloric acid. This fact is also observed in the adult after a milk meal, and owing to its power of neutralising large quantities of HCl. In a series of experiments subjecting human milk to the action of pepsin with deficiency of HCl he observed that the digestion of proteids took place even in such conditions, and increased in proportion to the decrease in the deficiency of HCl; there was no sudden passage in the intensity of digestion between experiments with a minimum deficiency of free HCl and those with free HCl. In another series he studied the modifications of peptic digestion in proteids of cow's milk subjected to a variable quantity of HCl and constant quantities of rennin. The result was that the more the curd was acted upon by HCl the more it was digested. In a third experiment on the gastric contents taken 15 to 30 minutes after a feed he calculated the quantity of nitrogen in the soluble substances after digesting it for three hours. The amount in the gastric contents immediately after it was taken was 0·055 gr., and after three hours 0·208 gr. From these experiments the author concludes that the absence of free HCl in the gastric contents of an infant in the first hour after a feed does not prove that the gastric digestion of proteids is deficient. VINCENT DICKINSON.

Nuts and fruits: their value in the diet of children ('*New York State Journ. Med.,*' 1916, XVI, *p.* 153).—**G. D. Scott** emphasises the nutritive and dietetic value of nuts and fruits for children. Fruits are given to infants and children for the following reasons: (1) They are appetising and palatable; (2) they are very refreshing; (3) on account of their nutritive value; (4) on account of their salts; (5) on account of their diuretic action; (6) on account of their laxative action; (7) on account of their tonic action; (8) on account of their anti-scorbutic action. The nutritive qualities of fruits and nuts are not to be depreciated, they are not to be given to the child as a pleasurable and luscious appetiser only, but as a food, an addition to the general diet, stimulating, nourishing and exhilarating the child to a stronger mental and physical existence. J. ALLAN.

Some remote effects of bad feeding ('*New York State Journ. Med.,*' 1916, XVI, *p.* 150).—**F. Van der Bogert** maintains that many of the ills of childhood may be attributed to bad dietetic management, and he suggests that, were the dietetic histories of all patients seen by the physician more carefully studied, many a home made unhappy by sickly, irrepressible children would be brightened, the task of many a teacher lightened, many a diagnosis of tuberculosis found to be erroneous, many a belly left unopened, and infectious diseases saved a fatal termination, and most of this without the administration of drugs. J. ALLAN.

Diseases of Liver and Pancreas.

Acute yellow atrophy of the liver in a child of four ('*Journ. Amer. Med. Assoc.,*' 1915, LXV, *p.* 330).—**W. H. Mayer** reports the case of a female child, aged 4 years and 2 months, who was treated for symptoms suggestive of catarrhal jaundice for three weeks. Suddenly, however, the icterus deepened markedly, the pupils became widely dilated, and the patient was very irritable. The liver, which previously could not be felt, was now palpable three finger breadths below the costal margin, the temperature was 98° F., and the urine contained a marked cloud of albumin. The patient grew very restless and complained of severe abdominal pain; the pulse became more rapid, and the temperature was subnormal. The abdomen became markedly distended, and the liver increased further in size. The next day there was maniacal delirium followed by coma, and hæmatemesis occurred. The liver margin had receded and by 6 p.m. was no longer palpable. The pupils remained widely dilated, and the temperature was subnormal until several hours before death (thirty-six hours after the onset of the acute symptoms), when it rose to 103° F. At the necropsy, hæmorrhages were found in the peritoneum and intestines. The liver was about the normal size; the surface was a light red and several large areas of hæmorrhage were present under the capsule. On section the tissue was friable and of a yellowish colour and contained punctate hæmorrhages. Microscopically, there was acute yellow atrophy, though the degeneration was only partial in certain areas. The kidneys showed an acute nephritis.

T. R. Whipham.

Congenital cirrhosis of the liver (‘*Interstate Med. Journ.*,’ 1916, xxiii, *p.* 14).—**C. H. Dunn** records the case of a male infant, aged 3½ weeks, who was admitted for jaundice and distension of the abdomen. The family history was good. The child was breast-fed and on the fifth day the stools were greenish and undigested, and there was fever, which lasted for five days. On the twelfth day jaundice appeared and Allenbury food without milk was given. The icterus increased and the abdomen became distended and shiny with prominent superficial veins. The liver edge was 5 cm. below the costal margin and œdema was present in the abdominal wall and in the legs. There was a leucocytosis of 35,000. The urine contained much bile, but the stools were free. Enemata failed to relieve the distension, so the abdomen was opened, when a large amount of bile-stained fluid escaped. The liver appeared large, dark red, and of rough surface. The gall-bladder was normal in size and was opened and drained. No other abnormality was found. Subsequently the abdomen again filled up and was tapped, but the child died the same evening. At the necropsy there was no obstruction in either the common or the hepatic duct. Microscopically a diffuse increase in the connective tissue was found, extending between the lobules, into the lobules, and even about the central veins with marked degeneration of the liver cells. The bile-ducts were increased in number and dilated, but did not contain bile-pigment. The condition was not entirely incompatible with syphilis, but no other evidence of the disease was found. The spleen was rather large and soft and showed no appearance of Malpighian bodies. The kidneys were congested and contained infarcts.

T. R. Whipham.

Congenital syphilitic cirrhosis (‘*Dub. Journ. Med. Sci.*,’ 1916, i, *p.* 358).—**J. H. Pollock**, at a meeting of the Royal Academy of Medicine in Ireland, Section of Pathology, demonstrated a specimen of the above obtained from an infant, aged 11 months, who succumbed to an apparently primary hepatitis. Cellular infiltration of a diffuse nature, together with gummatous formations, was present. This histology was typical, and spirochætes were demonstrable by Levaditi’s method. He thought it possibly unusual to see a liver in this precise condition, as such cases usually either died during intra-uterine life or survived sufficiently long for fibrotic changes to occur. He also showed a specimen of testicular gumma and a preparation of spleen from a macerated fœtus, exhibiting *Spirochæte pallida* in extreme numbers. J. Allan.

Perforation of the biliary tract (*'Journ. Amer. Med. Assoc.,'* 1915, lxv, *p.* 2084).—**H. L. Beye** reports the case of a boy, aged 11 years, who received a blow on the abdomen which was followed by pain, vomiting, constipation, and rise of temperature. The next day he presented all the appearance of "acute abdomen," and the leucocyte count was 21,300. A diagnosis of ruptured appendix and general peritonitis was made. At the operation the abdomen was found to contain a large amount of bile-stained fluid and fibrin. The proximal half of the small intestine was distended, and the distal half collapsed. No perforation of the intestines was discovered, and on the incision being carried upwards the gall-bladder was found to be thickened and adherent to the liver, and contained a simple perforation in the fundus from which bile was pouring. No stones were found. The wound was drained and the patient made a good recovery. Two months previously the boy had received a similar injury, after which he was sick and feverish for three days, but subsequently was apparently perfectly well. The relationship between the chronic cholecystitis and this injury is problematical. There might at that time have been an acute cholecystitis which was followed by change predisposing to perforation or a perforation with localised peritonitis which resolved. There was no history of typhoid fever or tonsillitis. T. R. Whipham.

Pancreatic cysts (*'El Siglo Méd.,'* 1916, lxiii, *p.* 114).—**L. Urrutin.**—These are divided into true cysts (cysto-adenomata or cysto-epitheliomata) and pseudo-cysts. The latter are much commoner, have no epithelial investment, and are usually produced by partial necrosis of the pancreas due to inflammation or trauma. Urrutin records a case in a female infant, aged 29 months, following a fall on the abdomen. Complete recovery followed laparotomy. J. D. Rolleston.

Pancreatic infantilism (*'Edin. Med. Journ.,'* 1915, i, *p.* 323).—**Byrom Bramwell** gives in detail the clinical history of a case of pancreatic infantilism (seen first in 1901) cured by the administration of pancreatic extract. The characters of pancreatic infantilism are: Arrested bodily and arrested sexual development; intelligence good, no mental defect; no deformity or structural defect of the bones; no visceral disease or derangement except chronic diarrhœa, flatulent distension of the abdomen, and defective or arrested pancreatic secretions. The defective or arrested pancreatic secretion is probably due to chronic pancreatitis. In some cases the condition (chronic diarrhœa and infantilism) is completely cured by the administration of pancreatic extract, and by that treatment alone. In the present case the result of treatment was remarkable improvement both as regards the diarrhœa, the bodily development and growth, and the sexual development. (1) Before the pancreatic treatment was commenced there were, on the average, five or six loose motions daily. As the result of the treatment the diarrhœa was arrested. During the first eighteen months after the treatment was commenced there were two motions on an average daily, one of which was formed; since that time there has been only one motion daily, formed and perfectly normal. (2) Before treatment the patient had not grown at all for eight years. After the treatment he gradually commenced to grow. (3) The sexual development, which when the patient came under observation was quite infantile, gradually became complete. (4) The patient lost his child-like appearance; his voice, which was high-pitched and childish, became low-toned and rough. The author adds brief notes of other recorded cases of pancreatic infantilism, and appends notes of two cases of infantilism associated with diarrhœa, which he considers appropriately described as cases of "gastro-intestinal" infantilism.

J. Allan.

Surgery.

The surgical anatomy of cleft palate (*'Journn. Amer. Med. Assoc.,'* 1915, lxv, *p.* 915).—**J. R. Eastman**, in a paper which is well illustrated, draws attention to the danger of dividing both divisions of the descending palatine artery by incisions too far medial from the alveolar process, and thus cutting off the blood supply to the flaps. It is best to avoid lateral incisions if possible, or if they are absolutely necessary they should be made after the flaps have been elevated and the lines of tension determined. In this way small incisions properly placed only are required, and care can be taken to avoid both the ascending and descending palatine vessels, as well as the palatal nerves. Numerous other hints concerning the performance of the operation are also given.

T. R. Whipham.

Hagedorn's operation for double hare-lip (*'Lancet,'* 1916, i, *p.* 136).—**T. Bates, Jun.**, reports a case of double hare-lip in a boy, aged 14 years, treated by Hagedorn's operation. The premaxillary bone was removed, and the section of the lips made with a sharp-pointed tenotomy knife, sutures of silkworm gut being passed through and through. Illustrations show the condition before and after operation, and the steps of the operation itself.

J. Allan.

Hæmangioma of the parotid (*'Riv. di clin. pediat.,'* 1915, xiii, *p.* 541).—**U. Trinci** describes five cases of this condition, which is a congenital affection and generally develops early in extra-uterine life, being met with usually below one year of age, rarely as late as the third. The course is usually rapid and there is a slight prevalence in favour of the female sex. The tumour is usually the size of a nut or a small egg, with the larger axis vertical. The overlying skin is healthy but reveals a bluish colour underneath with delicate venous ramifications. It is slightly lobulated and of elastic consistence. There is a tendency to rapid growth and to implication of other glands. Partial or total removal of the parotid is indicated.

Vincent Dickinson.

Two cases of mesially situated cysts in children (*'Liverpool Med.-Chir. Journ.,'* 1915, xxxv, *p.* 308).—**H. Armstrong**.—Case 1: Male infant, aged 6 months. The mouth was widely distended by a globular tumour resembling a big purple plum. It proved to be a mucous cyst situated centrally in the free apex of the tongue. It had been present at birth and had gradually increased in size. Under chloroform the cyst was incised vertically, and a clear glairy fluid was evacuated and the thin wall of each half was dissected out, the now bifid tongue being united with silk sutures. In a few days it was impossible to tell that the tongue had been affected, but the lips took much longer to resume their normal contour after their prolonged distortion. Case 2: Girl, aged 4 years, presenting a sessile tumour situated centrally and extending for 1½ in. from just above the clitoris into the mons veneris. It had grown rapidly from its first appearance only six or eight months previously. The tumour was dissected out and found to be a simple mucous retention cyst. J. D. Rolleston.

Gastrotomy in a baby aged 6 months (‘*Lancet*,’ 1916, i, *p*. 189).—**C. P. G. Wakeley**.—The patient, a female infant aged 6 months, swallowed an open clasp-brooch two days before being admitted to hospital. A radiograph showed the brooch lying in the lower third of the œsophagus, the brooch being open with the head of the pin projecting towards the mouth. An attempt was made to close the brooch with the aid of a bronchoscope, but it was pushed down into the stomach, as was verified by a second X-ray photograph. The condition of the patient was not very good. She had not taken the breast well since the brooch had been swallowed, and had vomited at intervals. The next day she became very collapsed, but her condition improved on subcutaneous saline infusion. However, her temperature suddenly went up to 107·2° F., pulse 192, and respirations 84. It was decided to operate. The foreign body was removed through an incision in the long axis of the stomach. The interior of the stomach was very congested and in a semi-ulcerated condition. The stomach wound was closed by Czerny-Lembert sutures, and the abdominal wound closed without drainage. The baby was kept in a tent bed for the next five days and was fed by her mother twelve hours after the operation. A drachm of the following mixture was given every four hours for the first five days after the operation to relieve the ulcerated condition of the stomach: Bismuth. carb., gr. v.; sod. bicarb., gr. iss.; spt. chloroform., ♏i; pulv. tragacanth., gr. $\frac{1}{8}$; aq. ad. ʒi. The child was fed by the mother every four hours night and day; she vomited slightly after the operation. The abdominal wound healed well, and the patient left hospital three weeks after the operation with a normal temperature and pulse. The hyperpyrexia on the day of the operation was very interesting, and the child was very fortunate to pull through after such a condition.

J. Allan.

New methods of pyloroplasty for congenital pyloric stenosis (‘*Journ. Amer. Med. Assoc.*,’ 1915, lxv, *p*. 1533).—**A. A. Strauss** states that in spite of the remarkable results obtained by Richter and Scudder posterior gastro-enterostomy is too severe an operation for cases of congenital pyloric stenosis who have been brought too late to the surgeon. He has, therefore, devised a new operation of pyloroplasty, of which his description, as detailed in one case, is as follows: An incision, 1 in. above the umbilicus, along the right rectus, and 1 in. in length, was made through the skin. This was retracted, and a slight curved incision was made through the anterior sheath of the rectus. This was carried through the abdominal wall to the peritoneum, and the peritoneum opened. A fine gauze sponge was placed immediately into the abdomen to prevent evisceration. A fine catheter was now passed by mouth into the stomach to allow the collapse of the enormously distended stomach. A small retractor was placed in the right side of the incision, and slow traction was made. With the index finger hooked into the lesser curvature the hypertrophied pylorus was delivered into the wound without bringing any other portion of the stomach or bowels into the wound. The pylorus was now grasped between the thumb and index finger and a longitudinal incision was made over the upper anterior quadrant of the pyloric tumour, and slightly beyond each end of it, down to the mucosa. The hypertrophied musculature cannot be everted so easily as described in pyloric closure, but one side of the musculature can be grasped with fine gauze by the assistant, while the operator makes pressure with the thumb and index finger from below. Then a Kocher dissector, with the aid of the scalpel, was used to free the mucosa from each side of the divided muscularis until it was almost completely shelled out. The mucosa separates very easily; in fact, much easier than it does on the normal pylorus. The muscularis was now everted as much as possible, and a very fine scalpel was used to divide the muscle tumour longitudinally into two layers of equal thickness, a deep and a superficial, and the incision thus made was carried lateralward by a specially constructed angle knife a'most to the edge of the divided muscle tumour. This newly made flap was everted. The opposite side was then treated in the same way. The everted edges were closed with No. 00 fine waxed silk interrupted sutures. A small piece of free transplant from the great omentum was sutured with four interrupted waxed silk sutures over the pylorus to cover the raw surfaces. The entire operation did not take over ten minutes, and seemed to be devoid of shock. The abdomen was closed with a slight imbrication of the walls, as one would use in an inguinal hernia Interrupted chromic catgut was used, and also two tension sutures of heavy waxed silk. The advantages of the operation are: (1) The incision is very small; (2) time is saved and shock is avoided; (3) all conditions so far found in congenital pyloric stenosis can be dealt with; (4) the satisfactory result; (5) the anatomical relation of the stomach to the bowel is preserved, thus favouring the development of the liver and pancreas.

T. R. Whipham.

Appendicitis in hernial sac of a nursling (*'Med. Journ. of Austral.,'* 1915, II, *p.* 365.—**H. S. Stephens.**—A baby boy, aged 3 weeks, was operated upon for this condition with success.
F. R. B. Atkinson.

Appendicitis with cæcum on the left side (*'Med. Journ. of Austral.,'* 1916, I, *p.* 160).—**H. Smith** found on operation for appendicitis, the above condition with no real ascending or transverse colons, the small intestine occupying the right iliac fossa and the site of the cæcum, ascending and transverse colons.
F. R. B. Atkinson.

Intussusception (*'Boston Med. and Surg. Journ.,'* 1915, CLXXIII, *p.* 879). —**W. E. Ladd.**—Since 1908 sixty-three cases have been operated on at the Boston Children's Hospital, with a mortality of just below 49 per cent. Among the last nineteen cases the mortality was 21 per cent. Among eighteen cases operated on at the end of twenty-four hours the mortality was 16·66 per cent., among thirteen cases operated on at the end of thirty-six hours it was 54 per cent., and among seventeen cases operated on after sixty hours 88 per cent. Forty-nine occurred during the first year of life, eight during the second, and six between 3 and 9 years. Intussusception was much more frequent among healthy and well-nourished than in more poorly developed and nourished.
J. D. Rolleston.

Intussusception in an infant (*'Med. Journ. of Austral.,'* 1915, II, *p.* 50). —**A. B. Brockway** records recovery from this condition in a babe, aged 3 days, by excision of a portion of the protruding gut about the size of a thumb-nail.
F. R. B. Atkinson.

Enteric intussusception (*'Edin. Med. Journ.,'* 1916, I, *p.* 275).—**J. Fraser** gives detailed clinical histories of two cases in boys aged 3½ and

9 years respectively. Resection of the gut had to be performed in both instances, and in both complete recovery followed. The history is of a chronic and somewhat gradual type; further, it is recurrent. These facts are in keeping with what one knows, from a pathological view, is occurring. Before an enteric intussusception becomes definitely established, temporary invaginations occur, and these are evidenced by the recurrent spasms which the history usually notes. The mobility of the small intestine is such that interference with the blood supply, strangulation, and complete obstruction is more delayed than in the common ileo-cæcal and ileo-colic varieties, and therefore the progress of the disease is decidedly gradual and subacute. The age of the patient is instructive. The common types of ileo-cæcal and ileo-colic varieties occur usually during the first year of life; here we have cases occurring at later and such divergent periods as 3½ and 9 years. But perhaps the most distinctive feature is the absence of blood in the stools. It would appear that the passage of blood is prevented for two reasons: partly by the ileo-cæcal valve, which probably is spasmodically contracted, and partly by the kinking of the bowel which occurs secondary to the volvulus which so commonly complicates an enteric intussusception. A case which possesses the clinical features of intussusception and yet shows no blood in the stools is almost certainly enteric in type. There is very little that is distinctive in regard to the pathology, beyond reiterating the fact that an enteric intussusception is very frequently complicated by a secondary volvulus of the intussuscepted part. J. ALLAN.

Intussusception of the vermiform appendix ('*Lancet*,' 1916, I, *p.* 866). —**W. A. Curry** and **E. H. Shaw** report this case in a girl, aged 8 years, who was admitted to hospital with acute abdominal symptoms which suggested either appendicitis with abscess or intussusception. At the operation, on introducing the hand into the peritoneal cavity, a mass was distinctly felt in the right hypochondriac region. On delivery it proved to be an intussusception of the appendix into the cæcum, which had increased in size at the expense of the cæcum. The cæcum had a well-developed mesentery, and was very mobile. The intussusception was readily reduced by compressing the apex until the proximal ¾ in. of the appendix was reached. The appendix could not be further reduced because of the firm adhesions uniting the peritoneal surfaces. The adhesions were separated by means of a probe without any effect. The outer portion of the cæcal wall was œdematous, and its peritoneal covering presented a split about 1 in. in length. The cæcum was shut off by means of an intestinal clamp, and the appendix excised, together with about 1 in. of the surrounding cæcal wall. This was closed by a continuous through-and-through stitch of catgut and then buried by interrupted Lembert stitches. The split in the peritoneal coat was also covered in by a few Lembert stitches. The patient made an uneventful recovery. A description of the naked eye and microscopic appearances of the specimen is given. J. ALLAN.

Multilocular lymphatic cyst of the meso-colon ('*La Pediatria*,' 915, XXIII, *p.* 641).—**U. de Conciliis** reports the case of a boy, aged 9 years, admitted for severe abdominal pain for fifteen days previously. There was an ovoid swelling in the umbilical and epigastric regions extending to the left hypochondrium. The tumour at the operation was found adherent to the parietes and transverse colon. At first sight it appeared to be a multilocular lymphatic cyst, but the peculiar structure of the connective tissue, the presence and arrangement of muscular fibres, the abundance of blood-vessels, and especially the presence of other dilated lymphatic cavities in the form of small cysts, and also the marked development of the perivascular lymphatic spaces and the proliferation of endothelial elements in all these cavities led the author to decide that it was a true neoplasm.

VINCENT DICKINSON.

A case of general pneumococcal infection (*'Med. Journ. of Austral.,'* 1915, I, *p.* 325).—**D. A. Cameron.**—A girl, aged 7 years and 4 months, suffered from suppurative appendicitis, the pus removed containing abundant pneumococci, followed by abscesses in the right and left pleural cavities and around the left hip. Vaccine treatment was valueless. Recovery ultimately occurred. F. R. B. ATKINSON.

A case of abnormal anus (*'Brazil-medico,'* 1915, XXIX, *p.* 235).—**A. Silva**.—The patient was a female infant, aged 7 months, whose anus opened into the vagina a little below the hymen. As she was a well-nourished child and had never presented any symptoms of anal stricture it was decided to postpone operation for transplantation of the anus. J. D. ROLLESTON.

Congenital perineal testicle (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 1176).—**G. M. Loewe** reports the case of a boy, aged 12 years, whose right testis was in the perineum 5 cm. anterior to the anus, and 2 cm. to the right of the median raphé. Absence of the testis from the scrotum had been noticed two weeks after the lad's birth. An operation for replacement was successfully undertaken. T. R. WHIPHAM.

Strangulated Fallopian tube, ovary, and intestine in an infant (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 813).—**G. Abelio** reports the case of an infant, aged 11 months, who three months previously developed an inguinal hernia on the right side. This was successfully reduced on four occasions, but finally became strangulated. At the operation the sac was found to contain a congested ovary, the Fallopian tube, and a knuckle of intestine. The parts were returned, and convalescence was uneventful.

T. R. WHIPHAM.

Congenital metapodial brachymelus (*'Thèses de Paris,'* 1915–16, *No.* 14).—**P. Bellanger**.—This condition, described by P. Chevallier in 1910, is characterised by congenital shortening of the metacarpals and metatarsals. In the hand the affected finger seems to be drawn back into the hand. The movements of the finger are normal, but the movements of the first phalanx are somewhat impeded. In the foot the toe is club-shaped, and generally pushed back towards the dorsal surface. The malformation does not interfere with walking. X rays show that the metacarpal or metatarsal is shortened by at most one-third. The diaphysis is often slightly incurvated and the head is more or less flattened and broadened. The phalanges are sometimes affected, but almost always very slightly. The malformation is congenital but is increased slightly by an early union of the epiphysis. One or more bones of the metacarpus or metatarsus may be affected. Owing to circulatory conditions the fourth metacarpal or metatarsal is most frequently affected. The anomaly is often hereditary or familial. There is a definite predilection for the female sex. Other malformations may co-exist, especially brachymesomelus, because it forms a sort of transition with achondroplasia. The pathogeny is obscure. The deformity of the finger may be treated by section of the bone and by bone grafting. J. D. ROLLESTON.

Congenital absence of patellæ (*'Journn. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 2062).—**G. Rubin** reports the following cases: (1) A woman, aged 33 years, whose mother had no thumb-nails. In the patient herself the thumb-nails are practically absent, some horny tissue only being present near the matrix. The right patella is about half the normal size; the left is no larger and is displaced, but the latter condition is due to an accident. (2) Her son, aged 10 years, in whom both patellæ were absent as shown by X rays. Thumb-nails normal. (3) Her daughter, aged 4 years, who also presented absence of both patellæ. Thumb-nails partly developed. The mother had had rickets, and both the children showed signs of the disease. The author refers to Little's cases in which absence of patellæ and thumb-nails were found in a family of four generations. [*Cf.* also Firth's case in BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 305.—ED.]

T. R. WHIPHAM.

Retarded ossification as an ætiological factor in traumatic arthritis and epiphysitis (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 868).—**J. McW. Berry** quotes cases to show that retarded ossification may be an ætiologic factor in the production of traumatic arthritis and epiphysitis in children. The trauma, in such cases, consists in overstrain of the joints due to abnormal activity. The child may be leading the normal active life of a child of his own age, but anatomically he belongs to a type several years younger and, to avoid strain, his activities should be correspondingly restricted. Cases of this character are probably quite common, and are very apt to be overlooked or wrongly diagnosed. T. R. WHIPHAM.

Case of osteomyelitis with pyæmia (*'Edin. Med. Journ.,'* 1915, II, *p.* 18).—**D. M. Lyon** reports this case in a girl, aged 11 years, who succumbed after an illness of about five weeks' duration. The clinical history is given, and the post-mortem findings are fully detailed. Death was due to toxæmia and exhaustion, and was accelerated by interference with cardiac action by pericardial effusion and a large abscess in the heart wall. The condition began as a septicæmia, with staphylococci in the circulating blood. This was followed by acute osteomyelitis in several of the bones, and after a rather long interval (eighteen days) general pyæmia occurred with the formation of abscesses in the internal organs. Throughout the disease there was a varying degree of toxæmia. J. ALLAN.

Osteomyelitis of the femur following typhoid fever (*'La Med. de los Niños,'* 1915, XVI, *p.* 252).—**J. Montobbio y Hospital**.—A boy, aged 12 years, who had recovered from Pott's disease two years previously, developed osteomyelitis of the left femur in convalescence from typhoid fever. The abscess was opened, and sequestra were removed. Typhoid bacilli were found in the pus. Considerable improvement followed the operation (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 316).

J. D. ROLLESTON.

Congenital anterior curvature of the spine (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 736).—**S. Kleinberg** reports the case of a female infant, aged 4 months, who presented a lordosis which was apparently present at birth and not secondary to any other condition. In this instance heredity played no part, and despite the marked lordosis there was no albuminuria.

T. R. WHIPHAM.

Spina bifida (*'Boston Med. and Surg. Journ.,'* 1916, CLXXIV, *p.* 420). —**B. B. Cates** has operated on sixteen cases, aged from 21 days to 34 years, of whom ten survived beyond a period of three months. Of these ten, one died four months and one eight months after the operation, of pneumonia, and one six months after the operation, of hydrocephalus. Seven are living who were operated on from eight years to twenty months previously.

J. D. ROLLESTON.

A curious case of myelo-cysto-meningocele (*'Gaz. hebd. des Sci. Méd. de Bordeaux,'* 1915, XXXVI, *p.* 124).—**Petit de la Villéon** records a case in a girl, aged 10 years. At birth the tumour was the size of a pigeon's egg, but it progressively increased until its horizontal circumference was 37 cm. and its vertical circumference 33 cm. It was implanted by a pedicle 51 cm. broad on the lumbo-sacral region, and was fluctuating, transparent, and irreducible. Apart from a few varicose veins, the skin over it was normal. There was no malformation or trophic trouble in the lower limbs. Vesical and rectal incontinence had been present since birth. The tumour on removal weighed 1 kilo 650 grm. Complete recovery took place. J. D. ROLLESTON.

Surgical treatment of hydrocephalus (*'Interstate Med. Journ.,'* 1916, XXIII, *p.* 89).—**C. M. Remsen** favours the method of von Bramann, which is simple in the extreme as compared with other devices whereby the distended ventricles are relieved of their obstruction, whether it be in the foramina or aqueduct, or due to venous pressure in the posterior fossa, or whether it be an essential choroidorrhœa (with the characteristic changes in the ependymal cells) with a tentorial aperture obstruction. A simple craniotomy posterior to the coronary suture, which may be performed under local anæsthesia, allows entrance to the side of the superior longitudinal sinus. A blunt-pointed cannula is inserted — carefully avoiding the longitudinal sinus—along the side of the falx into the longitudinal fissure until the corpus callosum or roof of the distended lateral ventricle is encountered. On puncturing this body, the underlying fluid is allowed to escape into the subarachnoid space and becomes in relation with the superior longitudinal sinus and the cortex. This equalises pressure, and reduces conditions by short circuit almost to a normal state. The ventriculostomy is lengthened to about 1 cm. and, since the pressure is constant here in the presence of secretory activity, the opening is kept patent by the continual escape of the fluid. Theoretically, with the simplicity of these procedures under careful aseptic surroundings, this is clearly the course to follow as being the simplest, not only in the hydrocephalus of an obstructive type, but also in the essential choroidorrhœa of infancy *before cerebral destruction* has occurred, and in the hydrocephalus associated with tumor cerebri, to remove the causes of the blindness, choked disc, headache, and cerebral anæmia, or possibly to clear up a topical diagnosis, the symptons of which are clouded by the hydrocephalus tension—a truly decompressive measure of a simple type, to be essayed before the typical partial craniectomy—provided the tumour is irremovable. In certain cases of recurrence, due possibly to closure of the ventriculostomy opening, it is possible that the insertion of a permanent drainage cannula might perhaps reduce still further the percentage of failures in this operation. T. R. WHIPHAM.

Correspondence.

ROYAL MEDICAL BENEVOLENT FUND.

To the Editor of The British Journal of Children's Diseases.

Dear Sir,—The Royal Medical Benevolent Fund, the great benevolent society of the medical profession, is sorely in want of money now.

Though in ordinary times the medical profession supports its own poor, in these war times this is no longer possible. At the May meeting the Committee had a balance of only £17 in hand and at the June meeting was faced with a deficit of £16. The demands were heavy and had to be met, and this could only be done by withdrawing £500 from the bank.

As the direct outcome of the war, not only are the ordinary cases of poverty greatly increased in number, but an entirely new class of case has arisen urgently requiring relief, in which without actual poverty there is great temporary distress—distress, however, which it is hoped will relieve itself soon after the war is over and the doctors serving return to their civil duties.

At the outbreak of war the medical profession responded freely to the nation's call. The Territorial Medical Officers were at once called out, and other medical men volunteered. Both alike had to leave their practice at very short notice, and often without being able to make adequate provision for its continuance and maintenance during their absence. Their pay went but little way to supply the loss which their absence entailed, for the working expenses of the practice could not be materially reduced. The result was that many families found themselves in very straitened circumstances. Rent, rates and insurance brook no delay, but worst of all school bills could not be paid, and if help had not been quickly forthcoming the children would have suffered for the patriotism of their father.

The following are typical of the cases with which our Fund has had to deal:

A young doctor who had only been in practice a few years volunteered for service, and was killed in action a few days later. He left a widow, aged 35 years, with two young boys, aged 3½ and 1 year, entirely without means. The Fund voted £25 for her immediate necessities, and put her into communication with the Officers' Families Association, which gave further help.

A practitioner, aged 38 years, earning £700 to £800, volunteered for service, leaving his practice in the hands of a neighbour, who was not a success. There were two young children, and another baby was born shortly after the husband left. The wife contracted pneumonia and nearly died. A resident patient had to leave the house. Rent and other expenses led to a debt of about £80. This the doctor could not meet, and he hurried back from the trenches to save his home from being sold up. The Fund voted £25, the Guild gave £15, the Officers' Families Association £25, and the Professional Classes War Relief Council further help, with the result that he returned to the Front with his immediate anxieties relieved.

A captain in the Territorials was called out and had to leave his practice in the hands of a *locum*, who proved a failure. There were seven children, aged 2 to 14 years. Financial difficulties arose and payment of the school fees became impossible. Between the Fund and Guild and

Officers' Families Association the necessary fees were raised, and clothing, which was greatly required, provided.

These cases show well the way in which the Fund works, not only by giving relief itself in money and kind, but also by obtaining, through co-operation with other benevolent societies, more substantial assistance than it could afford alone.

But there is another class in which the distress is perhaps even greater and adequate relief more difficult. It is that of men who left home and a good practice in vigorous health and who have come back, crippled by wounds or with health impaired, to a practice severely damaged by their absence, and without the strength or energy to regain the practice and position which they sacrificed.

Our Fund has set apart a special sum to meet emergency claims of this kind, yet the demands are so great that it will soon be exhausted. We cannot now rely on the profession alone to supplement it largely, for the medical profession, like all other professions, is hit very hard by the war and has no longer its old resources to draw upon.

What is required is an Emergency Fund large enough to deal adequately with these emergency cases arising directly out of the war, and for this we are driven to appeal to the public as well as to our own profession.

We trust that our appeal will meet with a liberal response both from the public and from the medical profession, for unless fresh funds are quickly forthcoming it will be impossible to continue the relief which is so urgently required.

We are, faithfully yours,
John Tweedy, *President.*
Samuel West, *Hon. Treasurer.*
G. Newton Pitt, *Hon. Secretary.*

11, Chandos Street,
Cavendish Square,
London, W.

Reviews.

I.K. Therapy in Pulmonary Tuberculosis, with a Summary of Cases and 42 Illustrative Charts. By William Barr, M.D. Bristol: J. Wright & Sons, Ltd., 1916. 8vo, pp. 82. Price 3s. 6d. net.

Among the less well-known forms of tuberculin, so far as this country is concerned, is Carl Spengler's preparation known as I.K., or Immunkörper, immune substances. It came out in 1907, and consists of the diluted and acidified blood of rabbits that have received intra-muscular injections of tubercle bacilli and the other bacilli associated with them in secondary infections of phthisical lungs. It is claimed that I.K. contains lysins that destroy these bacteria, and antitoxins that neutralise the toxins set free by this lysis. Hence, when injected into human beings, I.K. produces a passive immunity; the human tissues are thus enabled to devote their attention to the production of an active immunity, although the I.K. contains no active immunising agent. Hence it is said that I.K. produces primarily a passive immunity to tuberculosis, and secondarily an active immunity. Be this as it may, I.K. has been highly praised by some of its users, and Dr. Barr tabulates results shown by patients of his who have received ambulant I.K. treatment since October, 1913. Dr. Barr speaks highly of I.K. in the treatment of almost all forms of phthisis; he does not place absolute reliance on it, and in his own work he uses tuberculin—he does not say which tuberculin—almost as extensively; both, he says, have their limitations. In general, I.K. should be administered by hypodermic injection; but it can also be given with success by the mouth, as it appears not to be broken down in the process of gastro-intestinal absorption. The initial doses are minute; successive doses are each larger than the last, if all goes well, and given at intervals of a week or fortnight for at least six months. The injections should be begun again if the patient does not get on subsequently. Overdoses of I.K. show themselves by the production of general, focal, and local reactions, and are undesirable. The treatment is contra-indicated in cases of phthisis that are very far advanced, or are complicated by extreme anæmia, heart disease, or cachexia. Dr. Barr gives full directions as to the choice of cases for I.K. therapy, the troubles that may arise in its employment, and its use in dispensary, sanatorium, hospital, and domiciliary treatment. In the case of young children the I.K. can be given by the mouth, and this method of administration is recommended in acute forms of phthisis in the young. Dr. Barr finds that most patients appreciate I.K. treatment, which shows that at any rate they derive subjective benefit from it. The treatment improves the appetite and lessens the sputum and fever. Dr. Barr naturally hesitates to commit himself to any attempt to prove the curative powers of I.K. by statistics, but makes it clear that his extensive experience leaves him convinced of the efficacy of the preparation. His book is clearly and temperately written, and makes out a good case for the further trial of I.K. It should be in the hands of all who have to treat phthisical patients.

A. J. J.-B.

FOOL CULTURE: ON EDUCATION, CULTURE, MISGOVERNMENT, AND DESTINY. A CALL TO REPENTANCE. By KIRTON VARLEY. London: The Generation Press Co. Pp. 109. Price 2s. 6d. net.

IN this book the author attempts to show the inherent fallacy of our modern "scholastic or latinised education," which he considers to be nothing more or less than an "antipathetic pedagogy." Such an education, according to his view, produces merely "scholars and priests, poets and thinkers," instead of men of energy and action, capable of carrying on the work of the nation. Mr. Varley can see apparently no advantages accruing from a classical education, but he adduces little real argument against it, and only inveighs with a continual iteration of words against the system and the Government, which in his opinion is its outcome. What he has to suggest in its place is the introduction of the Montessori system of education for children, and the establishment of gymnasia for specialised training at a later age.

We venture to doubt, however, whether the book will serve the author's or any other purpose. It is written in a verbose and involved style, which aims at being erudite, but merely renders the author's meaning frequently obscure, and is very wearisome to the reader. Notwithstanding his efforts to be literary, Mr. Varley is guilty of at least one split infinitive and of treating *data* as a singular noun, which goes to prove that a "latinised education" is not without its use for writing correct English. On p. 76 occurs the word "ossefying," but this it is only charitable to suppose is a misprint.

The author acknowledges that his book was rejected by three publishers, and we can well believe it.

T. R. W.

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Original Articles.

EXTENSIVE FIBROSIS OF THE LEFT VENTRICLE IN A CHILD.

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient, W. C—, aged 10 years, a boy of Russian Jewish parentage, was admitted to hospital on March the 8th, 1916, with a history of recent melæna. He was rather delicate-looking and had considerable enlargement of the heart. Crepitation was at first present at the base of the left lung behind, but could no longer be heard by March the 20th. In the hospital he frequently had more or less melæna, and occasionally there was a little fever. Sometimes he complained of headache. The urine was free from albumin and sugar. There was a history of his having had an illness, accompanied by the passage of blood *per rectum*, two years previously.

On April the 7th severe hæmorrhage occurred from the bowel, and, as a result, the boy became collapsed and blanched from the loss of blood. In the afternoon of that day no pulse could be felt at the wrists, and an intravenous injection of physiological salt solution was made, with good result. During the following days a continuous "drop-enema" of physiological saline solution was frequently made use of, and the patient's condition gradually improved. Calcium lactate was given by the mouth. There was practically never any fever. Apart from the loss of blood *per rectum*, the patient had sometimes had, since the illness of two years ago, and during the first part of the present illness, slight hæmatemesis and slight hæmoptysis.

On April the 14th I noted that the fæces were quite free from blood, even by the modified guaiac test. No fever whatever was charted after April the 16th, and the patient left the hospital on June the 13th in apparently satisfactory condition, except for the enlarged heart. Temporarily (May the 5th) the fæces again gave a positive reaction for blood. Early in June I noted that the boy was gaining weight and seemed well and happy. The pulse was, however, generally between 100 and 120 per minute, and the respiration between 26 and 28. The urine contained no albumin or sugar. The cardiac impulse was forcible, and the apex beat was in the sixth left intercostal space in the anterior axillary line; no murmur of any kind could be detected.

On June the 20th the boy looked pale and vomited, and he was readmitted. The urine then showed a trace of albumin, but no tube-casts. The fæces contained no blood. He soon appeared better, and was allowed to leave the hospital on June the 27th.

On June the 30th he was readmitted, complaining of a feeling of painful "stiffness" in the legs and abdomen. In the hospital after this there was sometimes slight fever. The urine at first contained albumin, but was afterwards reported free from albumin and sugar; no blood could be detected in the fæces. On July the 4th the feeling of "stiffness" seemed to be passing off. However, on July the 5th, at 8 a.m., the boy began to complain of violent pains in the abdomen, and when I saw him later on in the morning he was suffering also from pains in the lower extremities, chiefly in the right foot and leg. The right foot was at that time very pale and cooler to the touch than the left leg, which showed a "livedo-like" mottling. By 3 p.m. the pallor of the right foot had extended up the leg almost to the groin. Embolism was, of course, thought of, but owing to the patient's collapsed condition the pulse-test could not be employed, as no pulse could be felt in either lower extremity nor at either wrist. Since the commencement of the final attack—that is to say, since about 8 a.m.—there had been occasional vomiting, but not of blood. Death occurred at 3.30 p.m.

Necropsy and Microscopical Examination.

The heart weighed 12½ oz. and was both hypertrophied and dilated. The myocardium of a large portion of the outer wall of the left ventricle had undergone a fibrous change, having been converted into hard, white, scar-like tissue. In the cavity of the left ventricle was an adherent, rather soft, organised ante-mortem thrombus, firmly planted on (as if "growing from") the endocardium near the apex. There was no valvular disease. The great trunks of the coronary arteries were not stenosed.

There was considerable disease of the abdominal aorta. Microscopic examination of this part of the aorta showed great thickening and atheromatous changes in the inner coat (*intima*), together with some small-cell infiltration about the *vasa vasorum* of the muscular-elastic coat (*tunica media*) and the outer coat (*adventitia*). At one spot, where there was an atheromatous deposit, the muscular-elastic coat was thin, and bulging outwards, to form a kind of "miliary aneurysm."

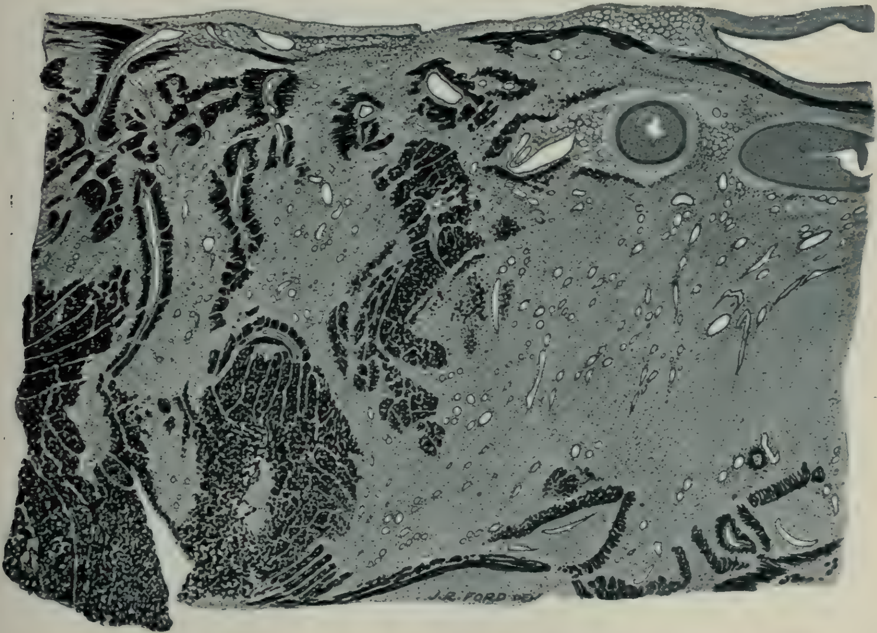

FIG. 1.—Part of the wall of the left ventricle (magnification × 7). It shows the extreme degree of the fibrosis and the distribution of well-preserved muscle-fibres left around the minute blood-vessels; also two arterioles partially blocked by endarteritis proliferans.

Microscopic sections of the fibrotic wall of the left ventricle (see Figs. 1 and 2) gave a very striking picture. The small arteries were extremely affected by a process of endarteritis proliferans (obliterans), so that their channels were greatly obstructed, but not altogether obliterated (see Fig. 3). The fibrous tissue which constituted the greater portion of this part of the cardiac wall contained numerous dilated thin-walled blood-vessels (capillaries), suggesting that, owing to the obstructive disease in the small arteries, the nutrition had perforce to be maintained, as far as it could be, through compensatory dilatation of the capillaries. There was very little small-cell infiltration to point to any (recent) inflammatory activity. The surviving (well-preserved) cardiac muscle-fibres tended in their arrangement to be grouped around small blood-vessels, mostly capillaries. This is well shown in Fig. 2, and suggests that the change in the diseased part of the heart-wall is largely one of "fibrous substitution," or "replacement-fibrosis," of ischæmic origin. In other

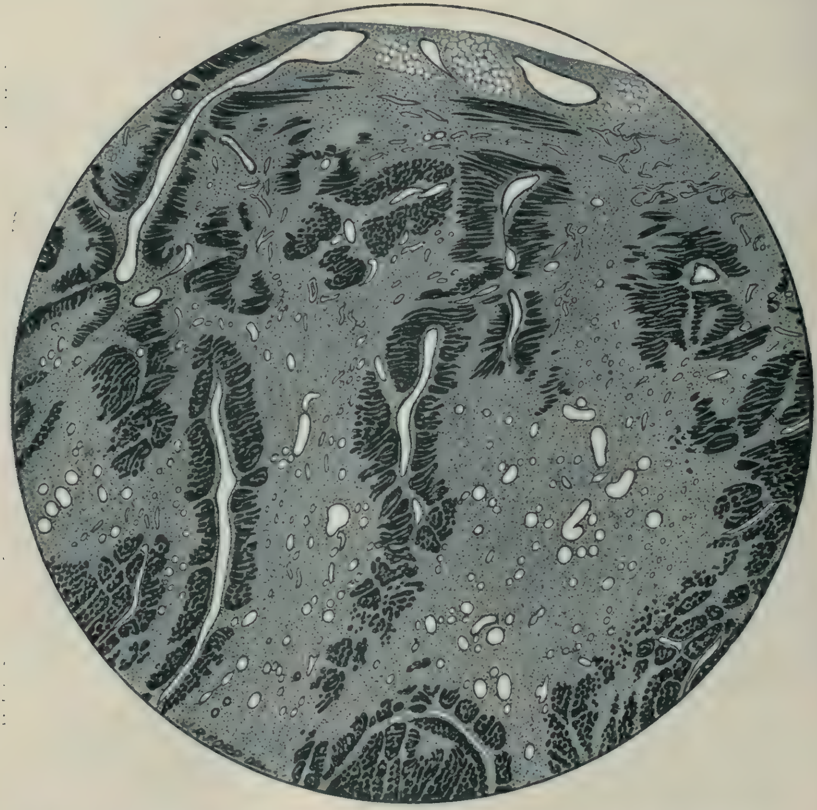

FIG. 2.—Part of Fig. 1 under higher magnification (× 17), showing the distribution of well-preserved muscle-fibres around minute blood-vessels.

words, it seems as if the muscle-fibres—that is to say, the "noble" or more highly differentiated histological elements of the cardiac wall—had given place to the growth of the less highly differentiated and more easily nourished ("hardier") connective tissue elements ("fibrous substitution" in the myocardial framework), excepting in the immediate neighbourhood of the thin-walled blood-vessels, where the nutritional requirements of the "nobler" elements could still be satisfied. In regard to the life of the whole organism the "conservative" nature of a replacement-fibrosis of this kind is evident.

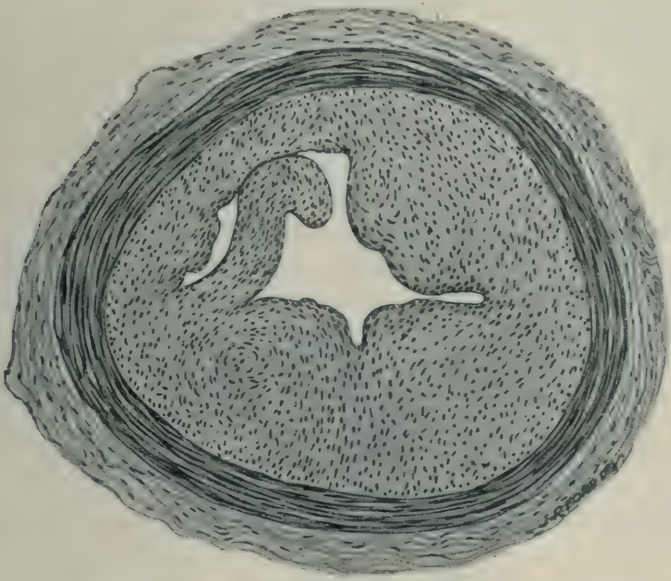

Fig. 3.—An arteriole in the wall of the left ventricle (magnification × 57) whose lumen is greatly stenosed by arteritis proliferans.

A fibrous patch in the wall of the heart, such as I have described in the present case, generally prevents rupture, and often to some extent prevents local bulging (though ultimately a cardiac aneurysm is not unlikely to develop), whilst the rest of the myocardium is able to carry on the heart's work sufficiently well (for a considerable time probably) to maintain the life, and permit moderate activity, of the whole organism.

As to the remaining post-mortem findings I will be as short as possible. The lungs showed some catarrhal changes, and there were old pleuritic adhesions between the left lower lobe and the diaphragm. There was no peritonitis. The right common iliac artery was occluded at its bifurcation by recent embolism. Nothing was found in the stomach and intestines to account for the attacks of melæna, etc., and no embolism of the mesenteric arteries was detected. The kidneys, which together weighed 9 oz., showed many embolic infarcts of various ages. The left suprarenal gland appeared macroscopically and microscopically normal, but the right suprarenal gland was enlarged to the size of a large chestnut and weighed ½ oz. A minute portion of the right gland consisted of normal suprarenal gland substance, but almost the whole of it (microscopic examination) had undergone a diffuse fibrosis, which Mr. S. G. Shattock compared to that seen in congenital syphilitic livers in cases of so-called intercellular (less correctly, pericellular) cirrhosis in infants. Dr. H. Schmidt suggested that in the present case the degenerative change, whatever its nature was, had occurred, not in a normal suprarenal gland, but in a cortical adenoma of the gland, suprarenal adenomata being especially liable to undergo degenerative changes. At one part of the (right suprarenal) gland a recently thrombosed vein was noted.

The liver (weight, 28 oz.) was examined microscopically, but showed nothing pathological, except chronic passive congestion. A small caseous lymphatic gland was found near the liver. The spleen, the pancreas, the testes, and the remains of the thymus gland were not diseased. Incidentally, it may be mentioned that a little submucous nodule, of the size of a small pea, was found at about the middle of the greater curvature of the stomach, and microscopically appeared to be a misplaced fragment ("rest") of pancreatic tissue. Though fragments or "rests" of "aberrant pancreatic tissue" are well known to occur in the small intestine, I am not aware that any of them have ever been described as having been found in this part of the stomach.

Dr. H. Schmidt examined specially stained microscopic sections of both suprarenal glands, the thymus, and the liver, for spirochætes, but with negative result.

The post-mortem examination showed, as stated, that the boy had an adherent organised thrombus in the left ventricle of his heart, which had been giving off emboli. This cardiac thrombosis had developed secondarily to an old fibrous transformation in the heart-wall, which, there can scarcely be any doubt, was of congenital (inherited) syphilitic origin. The endarteritis proliferans of the little cardiac arteries seen in Figs. 1 and 3 is by itself almost sufficient proof of the syphilitic nature of the change in the diseased portion of the heart-wall. The patient's blood-serum was not examined for Wassermann's reaction, but the Wassermann reaction was found to be negative in his father and in his supposed mother. It transpired, however, that the father's present wife, whom I had supposed to be the mother of the boy, was not the mother. His real mother had been a woman with whom the patient's father associated when doing military service in the Russian army. The present wife of the patient's father had had by him no children, but two or three miscarriages.

In regard to the special distribution of the still preserved muscle-fibres in the affected portion of the heart-wall I should like to draw attention to Figs. 1 and 2 in Dr. A. Weber's 'Thèse de Paris' (Steinheil, Paris, 1887), entitled "L'Artériosclérose du Cœur (Scléroses du Myocarde)," where very similar changes in the myocardium are illustrated. Similar appearances were likewise illustrated by Prof. H. Huchard in his 'Traité Clinique des Maladies du Cœur et des Vaisseaux,' second edition, Paris, 1893, p. 174, fig. 20; p. 177, fig. 21, plate ii, fig. 3. About 1893, when I was at Paris, Prof. H. Huchard and Dr. A. Weber showed me a microscopic section from a portion of fibrosed cardiac wall, showing muscular changes practically identical with those in the present case.

In conclusion, I have to thank Dr. H. Schmidt for his great assistance, especially in regard to the pathological examination of the case, and Mr. S. G. Shattock for kindly looking through the microscopic specimens with me and for help in regard to the illustrations.

THE TREATMENT OF RICKETS, BASED ON A NEW THEORY AS TO THE PATHOGENESIS, WITH AN ILLUSTRATIVE CASE.*

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Physician to the Queen's Hospital for Children.

The case of rickets which I show this afternoon is brought before the Section for the purpose of illustrating the good results which can follow when the treatment of the condition is based in accordance with certain principles which I venture briefly to outline.

In accordance with the view of the pathogenesis of rickets which

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* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on May the 26th, 1916.

I suggest, the symptoms usually ascribed to the condition may be regarded as representing the results of the calling into play by the victims of the disease of certain protective mechanisms. The troubles from which they protect the organism in the case of rickets are those which arise in connection with the disposal of an excess of nutritive material.

In order that an individual may remain in health, sufficient food material must be provided for the maintenance of the normal temperature, for the performance of such mechanical work as may be required for the ordinary purposes of life, for the growth and maintenance of the tissues, and also for the elaboration of secretions.

If the total calorie value of the food exceeds these requirements, it follows that the excess must be disposed of in some manner, which, inasmuch as it does not subserve any required or necessary purpose, may be regarded as pathological.

Recognising the strictly conservative character of the organic reactions in the animal body, we may assume that under given circumstances the method of disposal adopted will be that which will inflict the least possible degree of injury on the organism as a whole.

By what methods can excess of food be disposed of ? There are many alternative expedients, of which the following are examples. Classified in order of physiological advantage we may assume that the most economical expedient is to store up the excess in the form of a food reserve—for instance, as glycogen or fat. The limits of storage, especially as far as nitrogen is concerned, are, however, under all conditions extremely circumscribed, and occasionally quite negligible.

A second method is that of combustion or oxidation to the normal end-products carbonic acid gas, urea, and water. This method is economical in that it entails little strain on the mechanisms of elimination. On the other hand, it implies a waste of energy in certain other directions, as, for instance, in the dissipation of the heat produced and in the supply of the necessary oxygen.

A third alternative depends on the short-circuiting of the oxidation processes, in fact on the production of incompletely burnt-up products of combustion. This method has the advantage of saving oxygen and of limiting heat production, but the disadvantage of flooding the blood with acid bodies of large molecular size. I mean such bodies as lactic, oxalic, uric, glycuronic, di-acetic, beta-oxybutyric, and certain other organic acids. Such acid bodies are not allowed to remain in the blood without neutralisation, for acid reactions are fatal to cell activities; hence they are neutralised almost before they are formed at the expense of alkalies or basic elements derived from the floating reserves or from the tissues themselves. After neutralisation they are, of course, removed from the system by the ordinary processes of elimination. In this way the reserves of carbonates in the blood are drawn upon, ammonia is extracted from protein sources, while calcium, sodium, magnesium, and iron are withdrawn or withheld from various important organic combinations.

The injuries inflicted on the organism by this method of disposal are those which are commonly covered by the comprehensive term "acidosis."

The symptoms by which we recognise an acidosis are as follows: In serious cases we observe "acyanotic hyperpnœa," due to the depletion of carbonic acid carriers and concomitant stimulation of the respiratory centres; there may be serious cyclic vomiting, possibly due to an associated stimulation of the pneumogastric centres, as well as a great variety of nervous symptoms dependent on analogous causes. Among the more chronic results are disintegration of the red blood corpuscles, interference with the oxygen-combining powers of hæmoglobin, and demineralisation of the osseous tissues. One of the most interesting results of the hæmolytic disturbances thus set up is the compensatory activity of the blood-forming organs, the hæmogenetic functions of the red marrow being stimulated in corresponding degree. The external evidences of this functional and compensatory activity are the enlarged epiphyses of long bones so common in rickety conditions.

The resources at the disposal of the organism for dealing with excess of nutritive material are by no means exhausted by the methods already enumerated; but they represent the most important, and include among their results the symptoms which are generally regarded as making up the clinical picture of rickets.

In any particular case of rickets it is impossible to predict what precise method or combination of methods will be adopted to dispose of the excess, and herein lies the protein character of the symptoms of the disease. But however much they may be disguised or obscured, or however incompletely we may be able to follow the intermediate stages, we may feel perfectly confident that in the final issue the metabolic processes will follow the rule of physiological expediency, obey the laws of the conservation of energy, and conform to the economic necessities of supply and demand. The fulfilment of these laws and conditions must result in the manifestation of the kind of symptoms I have described, and which make up the clinical picture of rickets.

If this theory of rickets is true, as I firmly believe it is, it is necessary to prove that in every case of rickets there is some excess of food, otherwise the acidosis and the other manifestations of the disease cannot be explained on the lines suggested. If by "excess" we simply mean "excess" in the popular interpretation of the term, and as estimated by the usual arbitrary standards, it must be admitted that the theory falls to the ground. But if by the term we mean "relative excess," that is to say a redundancy over and above that which is required for the physiological purposes, then I submit that the theory holds good in every detail. I mention this because rickets is generally included among the deficiency diseases.

The physiological food demands of many infants and children are negligible. If they are kept in hot, stuffy rooms, if they are wrapped up in a multiplicity of clothes, if they are seldom taken out of doors, and if they are given no opportunities for muscular exercise, they will create no demand for food, and consequently any dietary, however small, may be *relatively excessive*, and, if excessive, must be disposed of by one of the protective methods already described. These are the usual conditions which surround the victims of rickets. Under such circumstances we could predict with complete confidence that the child would, if he could, lay up stores of glycogen and fat and become obese; that he would show evidence first of excessive combustion by sweating and vascular dilatation of the superficial capillaries of the face and other exposed parts, and possibly by disturbances of the heat regulating centres, and then of sub-oxidation with the symptoms of an acidosis, with enlarged epiphyses and demineralisation of bone; and finally of acyanotic hyperpnœa with other serious nervous manifestations.

I have for many years treated all cases of rickets on the assumption that this is the true pathogenesis of the disease; but I have selected this particular case to show because it has responded peculiarly well to the expedients which such an assumption suggests.

The following is a short history of the case. W. H—, a girl, aged 2 years, admitted to the Queen's Hospital for Children, February the 28th, 1916, for spinal disease, supposed to be tuberculous.

Family history.—Mother married twenty-four years, fifteen pregnancies, four miscarriages. Ten children alive and healthy. W. H— was born ten months after the previous child, who is strong and healthy. Mother contracted gonorrhœa from father two months before birth of W. H—. No family history of tuberculosis.

Previous history.—Very small at birth; weight not recorded. Ophthalmia neonatorum. Child always delicate. Easily caught cold; has had cough on and off since birth; severe attack of bronchitis two months before admission.

Feeding.—Breast-fed four or five months; then Nestle's milk and barley water; then goat's milk, and finally Glaxo. Solid food given at 9 to 10 months. Recently before admission had cow's milk, gravy, potatoes, cream, eggs, bread and milk; altogether a very liberal dietary.

Patient never had diarrhœa or vomiting; bowels have been fairly regular. Motions normal.

At about the age of 6 months mother noticed the back was becoming greatly curved, the curvature increasing. The child was not nursed much, but was allowed to lie at full length on her back in a perambulator, which was long enough for the purpose. At one year the child began to say a few words and to make attempts at taking steps if held, but has never stood alone. The legs have always appeared "strange."

Condition on admission.—Child markedly anæmic and flabby, lies absolutely motionless with legs fully extended, makes no effort to move, and cannot be made to turn over or use legs by any ordinary method of stimulation. Patient has been kept on her back for some months owing to spinal curvature.

The bones show rickety changes in marked degree. Fontanelle not closed, bossing of frontals, marked Harrison's groove, marked curvature of humerus and femur; some bulging of the temporal bones just above the ear; marked kyphosis in lower dorsal and lumbar region with considerable prominence of spinous processes.

All epiphyses of long bones greatly enlarged and well-defined rickety rosary. There was no tenderness of spine, no rigidity, and apparently no pain in jarring.

Heart small and flabby in action. Abdomen pot-bellied. Lungs, no obvious physical signs.

Pathological report.—*Urine* acid. Small deposit on centrifugalising, consisting of starch granular and bladder epithelium, numerous Gram negative mobile bacilli. No pus. *Blood:* Red blood corpuscles, 3,640,000 per c.mm.; white blood corpuscles, 12,400 per c.mm.; hæmoglobin, 40 per cent.; colour index, 55. Differential count: Lymphocytes, 62 per cent.; polymorphs, 37 per cent.; eosinophils, 1 per cent. No alteration in size or shape of red blood corpuscles. No nucleated forms.

Wassermann test negative.

X-ray report.—Spine : All bones appear poorly mineralised. No indication of tuberculous deposits in spinal vertebræ. All epiphysial lines irregular.

Progress of the case in hospital.—The general condition of the child shows enormous improvement since admission. The temperature, however, has never been steady, but has fluctuated daily between 101° F. and 98° F.

The pulse fluctuates—rate between 116 and 130.

The weight on admission was 1 st. 3 lb. 14 oz., and is now (May the 20th) 1 st. 1 lb. 12 oz. Movements are much more active, and the child can now (three months after admission) sit up by herself and stand up by holding on to the head of the bed. The colour of the child has completely altered, and she no longer appears anæmic.

Since admission there has been one attack of rather severe bronchitis, lasting a few days with high temperature, due to an infection (influenza) which attacked most of the children in the same ward.

The general course of the complaint suggests that in addition to the very marked symptoms of rickets there is an underlying tuberculous process. But the fact that this serious complication has not interfered with the general improvement of the typical rickety symptoms only strengthens the view of the pathogenesis of rickets which I have sketched.

The treatment since admission has been based on the assumption that the marked and typical rachitic symptoms have been caused by a relative excess of food which has called into play certain protective mechanisms, which have brought about a short-circuiting of the oxidation processes and the production of an acidosis. The acidosis has led to an anæmia, and the organism has attempted to counteract this by compensatory over-activity of the hæmogenetic centres in the long bones. Hence the great enlargement of the epiphyses of the long bones.

The acid toxæmia has further led to the paresis of muscles, the general debility and the demineralisation of the bones. The kyphosis is probably postural. Previous to admission the child had been treated by liberality of diet and enforced rest in the recumbent position on the assumption that the spinal curvature was of a tuberculous character, and hence all the conditions were provided for establishing a "vicious" circle of relative over-feeding. Since admission the treatment has been to create a demand for food by massage, resistance exercises, cold douches, and, as far as conditions in hospital allow, by open-air treatment.

The acidosis has been specifically treated by the exhibition of large doses of alkalies, but the alkali tolerance has been very high, and the urine has rarely been alkaline in spite of the alkali administration. The presence of the Gram negative mobile bacilli in the urine may be explained by its acid reaction.

To compensate for the anæmia carbonate of iron has been given, and phosphorated cod liver oil (1 in 10,000) has been supplied with the view of building up the damaged nervous system. The diet has been simply of milk, restricted in quantity.

The general result has been that although the child has lost weight owing to the muscular exercise and loss of fat, the general condition has improved immensely, the epiphyses being noticeably smaller.

I cannot help thinking that the general improvement of the rickety symptoms under this line of treatment, in spite of some underlying condition of an infective and probably tuberculous character, proves that the hypothesis is correct, and that the pathogenesis of the rickety condition, in this case at least, and probably in all cases, is due to causes which may be explained in accordance with the views I have ventured to express.

A CASE OF CONGENITAL URTICARIA PIGMENTOSA, WITH REMARKS ON ÆTIOLOGY.*

By George Pernet, M.D.,

Dermatologist to the West London Hospital and Lecturer on Dermatology, West London Post-Graduate College.

The case was that of a male infant, aged 7 months, first seen by me in the West London Hospital Skin Department on April the 14th, 1916. Scattered about the head, body, and limbs were numerous characteristic pigmented circular and oval lesions, which were flattish and slightly raised above the level of the skin. The distribution is well brought out in the front view of the child (v. photograph). It will be noticed the long axes of the oval pigmented areas are mainly transversely arranged, that is in the lines of cleavage, a fact I find noted in another case observed by me. On stretching the skin over the lesions the yellow tint was well brought out, and on stroking them with the end of the nail, with some pressure, a wheal was produced, a characteristic of the complaint.

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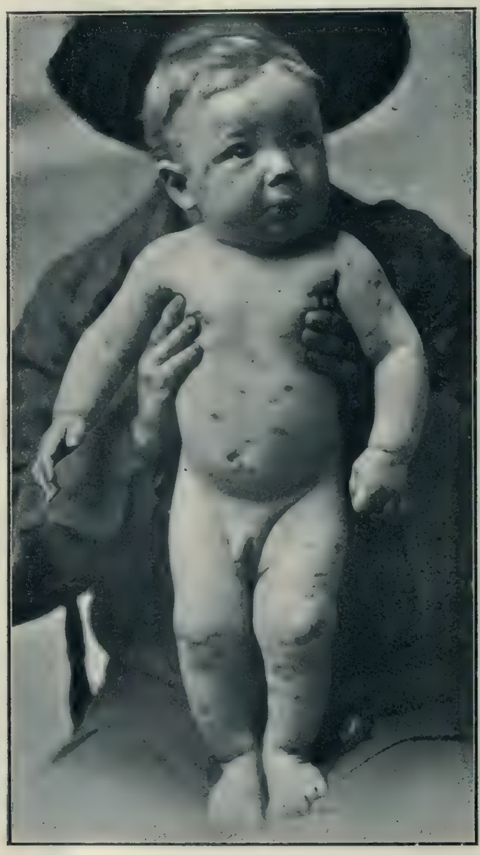
* The case was shown at the Dermatological Section of the Royal Society of Medicine on May the 18th, 1916.

Urticaria factitia was also present, as is the rule. The itching was very great, and kept the child and its parents awake at night.

The mother was not suckling the infant, which was being reared artificially, the dietary including groats. The infant appeared quite healthy, but the motions were very dark. The only other thing I noticed was just a suspicion of congenital syphilis about the look of the bridge of the nose and the forehead, the former being depressed and the latter somewhat bossy. The Wassermann test was negative in the case of the child and faintly positive in the mother.



Congenital urticaria pigmentosa.

Besnier, in his valuable commentaries in the French edition of Kaposi's 'Diseases of the Skin,' points out that adenopathies are always present in these cases. But in this instance, apart from a very slight amount of adenitis about the groins, they were not present. This may be accounted for by the short duration of the disease in this case. After a long-standing urticaria pigmentosa, with itching and scratching, the glands would have a tendency to enlarge on that account.

A liq. mag. carb. and sod. bicarb. mixture and a lotion of sanitas (1 in 8) were ordered. This, and no doubt leaving the groats out of the dietary, led to much improvement in the itching and the restfulness of the nights all round.

The congenital nature of the condition has been emphasised in the title, for the complaint is usually recorded as manifesting itself in the early months of life. Looking up my notes, I can put my hands on three cases without going far afield. In these the disease first appeared at the age of three weeks in two cases and of six weeks in a third. In the present case, the grandmother, who was present at the confinement, noticed the dark spots at the time of birth. Colcott Fox* states the disease is rarely congenital. In passing I may say there was no suggestion of maternal impressions or longings, such as seeing a leopard or dreaming of a leopard's skin.

The histological appearances in urticaria pigmentosa are peculiar, and may be said to be pathognomonic, viz. numerous mast-cells *arranged in columns and rows.* Mast-cells are found in other morbid conditions of the skin, but not in the same numbers nor with the arrangement just insisted on. Whether these mast-cells are identical with those described by Ehrlich in the blood is doubtful, especially since the investigations carried out by Gilchrist, of Baltimore. The mast-cells in urticaria pigmentosa appear to be rather degenerated connective-tissue cells. Howbeit, the arrangement in rows and columns is *sui generis.*

As to the name, it has been doubted if the condition was essentially a true urticaria at all, and some writers consider the label xanthelasmoidea (Tilbury Fox) better than that of urticaria pigmentosa (first so-named by Sangster). It may be mentioned here that the condition was originally observed and recorded by Nettleship (1869), who described his case as one of "chronic urticaria leaving brown discolorations behind and of two years' duration." On the other hand, the urticarial manifestations may only be associated with the formation of the mast-cell infiltrations. But how these arise is unknown, unless we fall back on the refuge of the destitute, viz. an intoxication, auto- or otherwise, or intoxications of various kinds, which does not take us very far, ætiologically speaking.

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* Allbutt and Rolleston, 'System of Medicine,' vol. ix, p. 233.

That some special factor or factors must be at work, in the blood or in the skin, or in both, must necessarily be considered, seeing how uncommon the condition is. I have not seen a case, with the exception of this one, during the last three years in my clinic, although a large number of infants and children pass through my hands.

As to the possibility of syphilis playing a part, that is a point that would have to be worked out specially. But even if we were dealing with an undoubtedly congenitally syphilitic infant presenting urticaria pigmentosa, it might well be merely coincidence. Yet we know that in all morbid conditions of obscure origin, the possibility of syphilis as an ætiological factor lurking in the background must be borne in mind. Without desiring to force analogies, a fallacious procedure as we all know, I may yet be allowed to refer to another rare disease, viz. retinitis pigmentosa, which I believe ophthalmologists are inclined to look upon as of syphilitic origin. I am not insisting on this disease on account of the qualifying adjective, *pigmentosa*, common to both, for the pigmentation arises from a totally different histological substratum apparently in each. No, my point is that in both cases we are dealing with rare conditions, though congenital syphilis is common enough. I am trying to meet the possible objection, a usual one, that because congenital syphilis is of everyday experience, therefore urticaria pigmentosa ought to be common too, which does not follow at all, although the general rule is in favour of the objection. But in these instances we may be dealing with an exception.

The Wassermann test was, as I have said, faintly positive in the mother and negative in the child. We know that in congenital syphilis the Wassermann test is not necessarily positive.

In conclusion, as to ætiology, I do not assert that urticaria pigmentosa is of syphilitic origin, but I throw out the suggestion that it is a point to consider.

Royal Society of Medicine.

DERMATOLOGICAL SECTION.

May the 18th, 1916.

Parakeratosis variegata.—Dr. E. G. Graham Little.—The patient was a girl, aged 18 years, one of three children, and the sole member of the family with any skin disease. She had showed no signs until eight years previously, when a vivid red rash appeared quite acutely one night on the legs and arms, and was ascribed to her having bathed in the sea when she was hot. The disease spread continuously but slowly until within about two years the entire surface was affected with the exception of the nails. Two years later, at the age of 13, she began to have epileptic fits, which had persisted. There was singularly little interference with the general health.

At the present time the eruption was very nearly universal, in the form of a fine branny lichenoid desquamation with points of accentuated redness as compared with the bluish-red general tone, these points constituting a very indefinite maculo-papule. Over the extensor surfaces of the joints there was much thickening, rather like that of pityriasis, but there was nowhere any resemblance to a follicular papule. The colour of the eruption varied, and at times assumed a vivid blotchy redness like measles, for which it had been mistaken at the onset. Silvery fine scales were freely shed. No treatment had made the smallest impression on the disease.

Lichen scrofulosorum.—Dr. GRAHAM LITTLE also showed a girl, aged 13 years, who had been treated for two years with small doses of tuberculin in the form of bacillary emulsion for scrofulodermia of the neck of five years' duration, resulting from a tuberculous glandular abscess. Lichen scrofulosorum had recently appeared suddenly in the form of a large number of patches of grouped follicular papules, the patches forming oblong or circinate shapes from 1 in. to 4 in. in diameter, and distributed on the back and front of the trunk between the navel and the nipples. The papules were of a vivid red colour, and at the periphery were somewhat more salient and more vivid in colour. The patches had persisted with little change except that there was a slow but progressive fading of colour, probably due to the omission of the tuberculin injections.

Acute Disseminated Tuberculosis cutis.—Dr. GRAHAM LITTLE also showed a male infant, aged 7 months, in whom the eruption had come out quite acutely about a fortnight before. The whole of the skin from the buttocks to the feet was closely covered with an eruption of small, deep bluish nodular lesions varying in size from $\frac{1}{16}$ in. to $\frac{1}{4}$ in. Above the level of the pubes the skin was unaffected. The neck glands had become enlarged at the age of 2 months, and the mastoid had been operated on for tuberculous disease at the age of 3 months. After the removal of about twelve caseous glands, in which bacilli were easily found, the eruption faded considerably.

Congenital Urticaria pigmentosa.—Dr. GEORGE PERNET. (See p. 301.)

Société Nationale de Chirurgie de Paris.

A PRIZE OF 50,000 FRANCS FOR THE BEST MECHANICAL HAND APPARATUS.

A GENEROUS donor, who wishes to remain anonymous, has offered to the Société Nationale de Chirurgie a prize of 50,000 francs, to be handed over to "the maker of the mechanical apparatus supplying the place of the hand best. All competitors must belong to allied or neutral nations. They are to present to the Society mutilated men who have been using their apparatus for at least six months. The Société de Chirurgie will experiment each apparatus on mutilated men for the length of time it thinks fit. The apparatus rewarded is to remain the property of its inventor. The competition will be closed two years after the end of the war."

MM. Faure, Kirmisson, Quenu, Rieffel, and Rochard, who form the Committee elected by the Société de Chirurgie, inform the public of the conditions of the competition as stated by the donor, and beg any person wishing to compete to send his essay and apparatus to M. le Secrétaire Général de la Société Nationale de Chirurgie, 12, rue de Seine, Paris.

Abstracts from Current Literature.

Diseases of the New-born.

The secretion of bile in icterus neonatorum (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 295).—**A. F. Hess** refers to his previous paper (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 414), the conclusions of which have been confirmed by his subsequent investigations. He found that the amount of bile-flow during the first twelve to thirty-six hours of life was very scanty, and although it then increased in volume, it was subject to wide variations. In general it was marked when jaundice was marked.
J. D. ROLLESTON.

Severe jaundice in the new born a cause of cerebral diplegia (*'Amer. Journ. Med. Sci.,'* 1915, CXLIX, *p.* 345).—**W. G. Spiller** raises the question of the possible relationship between severe icterus neonatorum and cerebral diplegia. In several ways there is the possibility of such a relationship. The arrested growth of the brain might be due to the jaundice or to hæmorrhage resulting from the jaundice; or on the other hand both the cerebral condition and the jaundice might be the result of some common factor. Some of the cases quoted by the author from his own experience and from the literature are suggestive, and one or two are very similar to the case of possible "kernikterus" reported in this country by L. G. Guthrie (*'Proc. Roy. Soc. Med. (Child. Sect.),'* 1914, VII, *p.* 86).
REGINALD MILLER.

Severe tetanus neonatorum (*'La Pediatria Española,'* 1916, V, *p.* 60).—**M. G. Alvarez.**—The patient was a male infant, aged 14 days, brought to hospital because it could neither take the breast nor cry. There were marked trismus, nuchal rigidity, and opisthotonus. The temperature was 104·4° F. The forehead was wrinkled, the eyes staring, and the masseters forcibly contracted. The lips looked as if the child was going to whistle. Clonic contractions were provoked by noise or a bright light. The belly was hard and tense, the lower limbs were over-extended and the upper limbs were forcibly flexed, especially the fingers. Ten c.c. of anti-tetanic serum were given, but the symptoms grew worse and there was a danger of asphyxia from contracture of the respiratory muscles. Subcutaneous injections of oxygen were then given and repeated every other day until five had been given. About 300 c.c. were used each time. Improvement took place on the second day, and complete recovery resulted.

J. D. ROLLESTON.

Pneumococcal peritonitis in infants: Possibility of its congenital origin ('*Le Nourrisson,*' 1915, III, *p.* 138).—**G. L. Hallez.**—A female infant, aged 5 weeks, was admitted to hospital for diarrhœa, vomiting, fever, and meteorism, and died the following day. The autopsy showed diffuse peritonitis, from which virulent pneumococci were cultivated. The lungs were normal. The infant had been born slightly before term while the mother was suffering from an acute pulmonary condition, probably lobar pneumonia, and developed the first symptoms of peritonitis shortly after birth. Hallez thinks that the fœtus was probably infected *in utero* by pneumococci in the maternal circulation. There are only five other cases on record of pneumococcal peritonitis below the age of 2 years, including one recorded by H. C. Cameron in the BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 259, in a male, aged 2 weeks.

J. D. ROLLESTON.

Multiple deaths in the new born of one family ('*Arch. of Ped.,*' 1916, XXXIII, *p.* 168).—**C. Herrman.**—In a family of eight children seven died of pneumonia, five during the first three weeks, one at 10 weeks, and one at 11 months. Herrman attributes this occurrence to a congenital susceptibility of the respiratory tract. Cultures of the mother's breast showed a marked preponderance of streptococci, but as the blood-cultures of the infant were sterile, there was no definite evidence of the mother having infected it. J. D. ROLLESTON.

Meningitis in the new born ('*Arch. of Ped.,*' 1915, XXXII, *p.* 583).—**C. Herrman** has collected eight cases of this rare condition from literature, and records a personal case in a breast-fed infant. Fourteen days after birth it refused to take the breast, became cyanotic, limp, and apathetic, with a temperature of 96° F., and died aged 18 days. The necropsy showed a yellowish-green exudate covering the anterior surface and base of the brain and extending to the cord. The lungs were congested, the other organs were normal. Cultures from the meningeal exudate showed the pneumococcus. The case is interesting as being the only case of pneumococcus meningitis hitherto recorded in the new born, in whom the *B. coli* is the usual causal agent of meningitis; on account of the absence of fever and later the markedly subnormal temperature; and on account of the entire absence of meningeal symptoms. J. D. ROLLESTON.

Transitory fever in new-born infants ('*La Pediatria,*' 1915, XXIII, *p.* 768).—**S. Lo Cicero** draws attention to the irregularity of the temperature during the first week of life. There is generally a temperature of 37°–38° C. during and immediately after birth, and then a rapid decline to 35°–36° C., followed by a slow rise to normal, which becomes established after the first week after irregular daily fluctuations. Besides this instability, due to irregular working of the heat-regulating mechanism under the influence of the new external surroundings of the infant, there are in many of them true febrile exacerbations occurring without any objective phenomena or apparent cause. Observations on eighty-three new-born infants, by taking the rectal temperature every three hours during the first eight days of life, revealed the fact that in about 10 to 20 per cent., between the second and fifth day, a febrile temperature was found, varying from 37·5° to 39° C., rising suddenly, and after a short duration, ending by crisis, without being accompanied by any objective signs, but more marked somnolence or sometimes restlessness. Usually the maximum of temperature coincides with the maximum of loss of body weight. The prognosis is always favourable and no treatment is necessary. The ætiology and pathology are unknown. Probably there are various factors, such as the action of food on the intestinal flora and mucous membrane, abnormal processes of metabolism, the influence of external surroundings, and, above all, the instability of the heat-regulating power of the new-born infant.

VINCENT DICKINSON.

Six cases of hæmorrhage in newly born babies (*'Arch. of Ped.,'* 1915, xxxii, *p.* 838).—**J. B. Manning.**—In all the cases the hæmorrhage was spontaneous, except in one due to circumcision. Blood serum was used in all cases. Two died.
F. R. B. ATKINSON.

Gastro-intestinal hæmorrhage in the new born (*'Dub. Journ. Med. Science,'* 1915, ii, *p.* 144).—**Spencer Sheill,** in a paper read at the Royal Academy of Medicine in Ireland, differentiated between ordinary melæna neonatorum and the very fatal type of which so little appears to be known regarding its pathology. Having alluded to what has been published regarding the causation and treatment, he proceeded to relate details of a case under his own care. The child, aged 2 days, passed and vomited so much blood as to be almost moribund. The treatment he adopted was the subcutaneous injection of horse serum—a treatment, so far as he was aware, hitherto untried in such a case. The result was rapid and successful, and the child did well and remained so.
J. ALLAN.

Two cases of intestinal hæmorrhage in the new born (*'Med. Press,'* 1916, i, *p.* 283).—**Mabel M. Crawford** records two cases, one of which terminated fatally. In dealing with such cases we have three objectives: (1) To avoid stimulation of the gastric secretion; (2) to induce coagulation; (3) to support the infant's strength. The most important points in treatment are the immediate administration of horse serum subcutaneously and in large doses, repeated once or twice if necessary, the giving of nothing but water by the mouth, and the maintenance of absolute quiet and warmth. In the fatal case, at the post-mortem examination an ulcer was found on the duodenum very near the pylorus. Seen from the outside, the ulcer showed as a grey circular patch, perhaps 2 mm. in diameter, and around this the blood-vessels were deeply injected. A blood-clot filled this part of the duodenum, and at the place of ulceration the wall was found to be extremely thin. There was neither air nor free fluid in the abdominal cavity, nor were there any adhesions about the ulcer. No other lesion was found.
J. ALLAN.

Syphilis hæmorrhagica neonatorum (*'Hospitalstidende,'* 1916, lix, *p.* 626).—**A. Pontoppidan** reviews the literature and records two personal fatal cases, characterised by bleeding from the fissures round the mouth and from the umbilicus, and by ecchymoses and petechiæ in the skin of the trunk and extremities.
J. D. ROLLESTON.

Diagnosis of intracranial bleeding in the new born (*'Cleveland Med. Journ.,'* 1915, XIV, *p.* 808).—**H. G. Sloan**.—After difficult or prolonged birth the child should be carefully watched for the next few days for any evidence of cerebral bleeding. Early symptoms of cortical irritation are most valuable in the localisation of the bleeding. Supratentorial hæmorrhage can be differentiated from subtentorial. When symptoms of general increase in intracranial pressure become marked, a decompression operation should be done. The best results are obtained when the pulse-rate is still slow and before the respiration becomes irregular.

J. D. ROLLESTON.

Further experience in the treatment of intracranial hæmorrhage in the new born (*'Boston Med. and Surg. Journ.,'* 1916, CLXXIV, *p.* 947). —**R. M. Green** refers to his previous paper (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 53), and records two more cases of infratentorial and supratentorial hæmorrhage respectively. The former was treated by lumbar puncture and the latter by incision along the coronal suture, followed by drainage. Both recovered. J. D. ROLLESTON.

Hæmorrhagic disease in the newly born treated by horse serum (*'New York Med. Journ.,'* 1915, CI, *p.* 1274).—**A. Hymanson** relates the case of a male infant, aged 5 days, who began to bleed at the navel and had purpuric spots on the skin. On the eighth day it passed blood from the nose, mouth and bowels, and the purpura increased. Calcium lactate had no effect. Coagulation time of blood eleven minutes. Twelve c.c. of horse serum were injected, with two similar doses next day. Improvement began at once, the bleeding ceased, and the subnormal temperature became normal. Three other cases were similarly treated, and all recovered except one.

J. PORTER PARKINSON.

Citrate transfusion for melæna neonatorum (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 2163) —**H. Woltmann** reports a successful case of transfusion into the median basilic vein of 60 c.c. of citrated blood in a baby suffering from melæna neonatorum, after a subcutaneous injection of horse serum had proved of no avail. One hundred c.c. of blood from a vein in the father's arm, and mixed with 10 c.c. of sterile 2 per cent. sodium citrate solution in a sterile container, was employed. T. R. WHIPHAM.

Tubo-ovarian inguinal hernia in a new-born child (*'Rev. Méd. de la Suisse rom.,'* 1916, XXXVI, *p.* 244).—**A. Givel.**—A female infant, aged 6 weeks, presented a pyriform, tender, irreducible swelling in the right labium majus, resembling a hæmatoma. Stools normal, no vomiting nor fever. Operation showed that the tumour was due to a hernia of the Fallopian tube and ovary, which had to be removed, as the torsion of the pedicle had caused an infiltration of blood into the ovary and partial necrosis. Complete recovery followed the operation. J. D. ROLLESTON.

Birth fractures of the humerus (*'Arch. of Ped.,'* 1915, XXXII, *p.* 669). —**E. D. Truesdell** made observations on twenty-four cases in the New York Lying-in Hospital. Seventeen occurred during version with breech extraction, four during simple breech extraction, and three in vertex presentation owing to difficulty in extracting the anterior arm, either from narrowing of the pelvic outlet or from the size of the child. In three the fracture was double. Seventeen survived. In all but one, in which it was oblique, the fracture was practically transverse, the site of fracture being at or near the centre of the shaft just below the deltoid insertion. Displacement of the fragments was the rule, the prevailing deformity being external angulation. A second variety was lateral displacement. Each fracture was accompanied by a well-marked wrist-drop due to injury to the musculo-spiral nerves. The paper is illustrated by twenty-one skiagrams.

J. D. Rolleston.

Developmentally deficient children twice born to the same couple ('*Amer. Journ. Obst.*,' 1915, LXXII, *p.* 729).—**W. C. Gayler.**—In January, 1914, a woman, aged 23 years, was delivered of a male child at term normal in all respects except for an imperforate anus and complete absence of rectum. It lived twelve days with an artificial anus. In January, 1915, she gave birth to a female anencephalic monster five weeks before term. The father, aged 28 years, was in good health. Neither of the parents and none of the four grandparents had any developmental defects. There was no history of trauma to the mother during either pregnancy, and there was no evidence of alcoholism, syphilis, or tuberculosis in either parent.

J. D. Rolleston.

Congenital oral defect ('*Dub. Journ. Med. Science*,' 1915, II, *p.* 59).—**Spencer Sheill,** at a meeting of the Royal Academy of Medicine, showed photographs of a child born with an unusual frænum between the upper maxillary bone and the lip. It was not considered of great consequence at the time, and was left; but as the child grew older it grew rapidly, and at the time of development of the teeth he had to cut the frænum, which came level with the tips of the two central incisors. The condition was difficult to explain without going into embryology. He suggested that an epithelial inclusion was pressed out through the two mesial nasal processes.

J. Allan.

Congenital malformation of the intestine ('*Amer. Journ. Dis. Child.*,' 1915, X, *p.* 360).—**L. M. Drennan** and **H. C. Clark.**—A new-born male infant began to vomit as soon as it was put to the breast, and continued vomiting after each feed. The bowels did not move. Laparotomy on the fourth day of life showed a high congenital malformation, causing complete obstruction of the small bowel and other points, indicating stenosis of the small intestine. Operation was therefore abandoned as hopeless, and death occurred a few hours later. Post mortem four complete congenital occlusions of the small bowel were found. The first was 28 cm. from the pyloric ring, and consisted of a thin diaphragm, at the second, which was 15 cm. lower, at the third, which was 10 cm. below the second, and at the fourth, which was 42 cm. below the third, the bowel tapered to a fine solid cord. No other congenital malformations were present except a small foramen ovale.

J. D. Rolleston.

Complete congenital atresia of the ileum ('*Med. Record*,' 1916, LXXXIX, *p.* 1039).—**R. H. Fowler.**—Vomiting began about fifteen minutes after birth and continued several times during the night and following day. The abdomen was distended. A diagnosis of complete atresia of the duodenum or hypertrophic pyloric stenosis was made. Operation was performed when the child was 27 hours old. On laparotomy an enormously distended portion of small intestine, blind and free, presented. Enterostomy was performed, but vomiting continued, and death took place four days after the operation. Post mortem the ileum was found to end in a small blind pouch 22½ in. from the ileo-cæcal valve. There was a defect in the mesentery at a point opposite the situation of the atresia of the ileum. The upper blind pouch ended at a point 33½ in. from the pylorus. It was very much dilated for a distance of 6 in. The ileo-cæcal valve and pyloric sphincter showed no change. The liver, gall-bladder and ducts were normal. There was an accessory spleen. The length of the small intestine was 56 in., *i. e.* 4 ft. 8 in. shorter than normal. J. D. ROLLESTON.

Imperforate anus and other congenital deformities (‘*South African Med. Record*,’ 1916, XIV, *p.* 72).—**B. Bernstein.**—A woman who had borne two normal children gave birth to an asphyxiated premature boy (36 weeks) with the following abnormalities: (1) Talipes calcaneus of both feet. (2) More or less complete absence of forearm, which was represented by a short stump in which only one bone could be felt. Probably absence of radius. Attached to the stump was an abnormal hand, in which (3) the thumb and little finger were present, the other three fingers being fused together. (4) Absence of anus. Artificial respiration was stopped when this last deformity was discovered. J. D. ROLLESTON.

Congenital trophœdema (‘*Riv. di Clin. Pediat.*,’ 1915, XIII, *p.* 833).—**I. Fini** reports the cases of mother and child suffering from this condition, and discusses the ætiology with reference to congenital œdema and Milroy's disease. With regard to the differential diagnosis between the writer's cases and congenital œdema, she mentions an objective symptom as worthy of special attention, *i. e.* the distribution of the œdema. The favourite site is the lower limbs, but the upper limbs at their distal extremities show also a slight degree of abnormality. Guided by the conception that in the fœtus and at puberty there is a hyperactivity of the genital glands, and especially those with internal secretion, and noting the contemporaneous onset of the œdema which goes on increasing up to a certain point and then is arrested and maintained almost unaltered during life, the writer thought that the relation between the two phenomena might be sought for in a deficient or altered secretion of one of these glands. She gave the mother, therefore, ovarian extract, both fresh and dry. After a month the circumference of the legs had apparently diminished ½ cm., but the woman's weight decreased in the same time by 500 grammes. The child was breast fed and increased regularly in weight; the feet showed no marked change except that the œdema was a trifle softer and had extended slightly.

VINCENT DICKINSON.

A case of congenital hemihypertrophy (‘*Lancet*,’ 1915, II, *p.* 10).—**J. M. Fortescue-Brickdale.**—The patient, aged 9 months, is the only child of healthy parents. There is no history of congenital deformity in any other member of the parents' families. The condition present in the child was first noticed some months after birth, but there appears no reason to suppose that it was not congenital. Beyond a small umbilical hernia, the child presents no sign of disease or deformity other than that about to be described. His mental condition is normal; in fact, he is remarkably bright, active, and intelligent for a child of his age. His skin is normal. There are no nævi or subcutaneous lipomata. The growth of hair and nails is the same on both sides; he has cut two lower median incisor teeth, which appear to be equally developed, and there is no difference in the temperature of the two sides of the body. The whole of the right side is larger than the left. The disparity is most noticeable in the lower extremities and face. The right ear is larger than the left, the right palpebral fissure is more widely open, and the right side of the tongue and right side of the lower jaw are distinctly larger than the opposite sides. The face has a curiously twisted look, as if the median line, instead of being straight, were the arc of a large circle, the centre of which would fall a yard or two to the left of the head. The parts are well developed, the muscles seem firm, there is no subcutaneous œdema on the larger side. The child, however, seems to use his left hand more readily than the right. The author thinks that the majority of cases of this nature are hemihypertrophies, a hypothesis that seems probable for the following reasons: (1) The distribution of the enlargement may vary from a few digits to the whole of one side. It would be absurd to regard two toes as normal and the rest of the body as atrophied. (2) Cases of enlargement of the opposite limbs are similarly difficult to regard as an atrophic condition of the rest of the body. (3) In several cases the smaller side was more functionally useful than the larger. (4) The few post-mortem examinations do not give any support to the view that the smaller side is atrophic. After a short historical note the author discusses clinical groups and pathogeny of these affections, and gives a bibliography of the more important and recent contributions to this subject. J. Allan.

Pre-maternity nurses and nursing (*'Journ. State Med.,'* 1916, xxiv, *p.* 114).—**J. W. Ballantyne** believes that ante-natal care can hardly fail to have a beneficial effect upon the mortality in children of a year old or under; and the morbidity also which prevails so largely in these early months of life would be greatly lessened by the improvement of the health and hygiene of the expectant mother. He gives an interesting account of the progressive development of the work in the pre-maternity ward in the Edinburgh Royal Maternity Hospital, and he further shows how the good work in this connection might be extended by dealing with extern cases. Nurses should take note not only of the parturient and puerperal patients upon whom they are actually in attendance, but also of prospective patients with whom they come in touch either on their direct invitation or by hearing of them through their patients. The author has prepared inquiry cards which contain the important matters to be discovered during these pre-maternity visits. The card contains spaces for the answers to queries respecting the name, age, address, and usual occupation of patient, her previous pregnancies, labours, and babies, with the mode of feeding them which was employed; her state during the present pregnancy and the expected date of her confinement, and, very important, the presence or absence of persistent headache, vomiting, or constipation, of swelling of the face and hands, of discharge, especially red in colour, from the vagina, of failure of eyesight, and of any other thing which has been specially troubling the patient, or which may by its unusual character attract the attention of the nurse. The rest of the card contains reminders to the pre-maternity nurse to give instruction and advice, if required, upon diet, fresh air (open window), avoidance of strains (lifting, reaching), clothing preparation for the confinement and the baby, care of the breasts and teeth, and upon the importance of reporting herself to the hospital, or of asking for another visit from the nurse upon the occurrence of any one of the unusual symptoms or signs of pregnancy, *e. g.* red discharge with pain in the back, too much morning sickness, foul discharge, etc. By an organised working on the lines suggested much might be done in the cause of child welfare, for by watching over and caring for the mother in her pregnancies one is attending to the welfare of the child at the time when it needs it.

J. ALLAN.

Diseases of Metabolism.

Mild diabetes in children ('*Amer. Journ. Med. Sci.*,' 1916, CLI, *p.* 40). —**D. Riesman** states that there is a mild type of diabetes in childhood and adolescence which tends to affect several members of the same family. The glycosuria is usually moderate and under 1 per cent., although nervous excitement and other factors may increase it. Other diabetic symptoms are often slight and may be absent. The disease is not progressive and may end in apparent recovery ; in its general features it corresponds to the so-called renal diabetes. Riesman records four cases, three of which were in members of one family, aged from 16 to 22 years, and one in a girl, aged 14 years.

J. D. ROLLESTON.

Diabetes and suckling ('*Riv. di Clin. Pediat.*,' 1915, XIII, *p.* 428).—**G. Guidi**, of the Children's Hospital at Florence, contributes a short but interesting paper on this subject. It does not deal with alimentary glycosuria preceding gestation, but with a special glycosuria which makes its appearance insidiously as gestation advances, and is characterised by the fact that, in contradistinction to the common glycosurias in pregnant or non-pregnant women, it is entirely independent on any kind of food and never induces hyperglycæmia. It is possible that this kind of gravid glycosuria is of renal origin and has some relation to abnormal permeability of the kidney to sugar, a renal anomaly due to gestation and experimentally confirmed by Pollak, who was able to reproduce this peculiar condition of the kidney by preparations of uranium and chromium. The author's theory is that certain elements of the genital organs, and more especially certain interstitial cells of the ovary which form an internal secretion—endocrinic cells—have some relation with the onset of glycosuria during pregnancy. The glycosuria ceases during the puerperium when these elements of the genital organs, owing to uterine involution, cease their excessive activity caused by gestation and revert to their normal function. In confirmation of this theory is the fact that the glycosuria seems to persist beyond the puerperium if the woman suckles, and this is doubtless because, as shown by Brugnatelli, in the interstitial tissue of the mammæ also there exist elements which present a marked analogy with the above-mentioned interstitial cells of the ovary. Hence it is logical to conclude that the products of secretion of these tissues, by way of proliferation and hyperfunction during the advanced period of pregnancy, act on the kidney, the organ of elimination, in the same way that uranium and chromium act, inducing an abnormal permeability to sugar, and in this way causing glycosuria. From the cases observed by him the author is of opinion that suckling is contra-indicated under such circumstances, as it is likely to cause severe intoxication in the child, with fever, vomiting, tetany, and even a fatal issue. Gravid glycosuria causes no harm to the fœtus as long as it is in the uterus, but it will feel its toxic effects as soon as the mother's milk conveys to the infant the toxins developed in the mother by the changes induced by disturbed renal function, and puts them into the circulation of an infant already hypersensitive from sojourn in the womb of a mother who is toxic although not hyperglycæmic.

VINCENT DICKINSON.

A case of diabetes (' *Lancet*,' 1916, I, *p.* 1115).—**W. G. Smith** records a case in a boy, aged 7 years, and makes some interesting comments, especially in regard to acidosis. J. ALLAN.

Acidosis in children ('*Boston Med. and Surg. Journ.*,' 1915, CLXXII, *p.* 747).—**A. Howard** describes sixty-four cases—thirty in males and thirty-four in females. The age varied from 2 days to 12 years. The cases under 2 years were as frequent as older patients. Acidosis, with recurrent vomiting and without any predisposing cause, is a very rare condition. The predisposing causes are acute infections, *e.g.* tonsillitis, bronchitis, otitis media, and infectious diarrhœa, and other states such as intestinal intoxication and stasis, burns, and etherisation. The severity of the acidosis in no way depends upon the gravity of the prodromal condition. Constipation is the rule. Twenty-two of the sixty-four gave histories of repeated attacks. The disease is ushered in by restlessness and irritability, the lips and mouth become dry, there is abnormal thirst, the respirations are rapid, and acetone appears in the breath and urine. Nausea and vomiting ensue. The irritability gives place to drowsiness, which may deepen into coma. Vomiting occurred in fifty-one of the sixty-four cases, and was most marked in the early stages of the illness. Three died. Treatment consisted in rest in bed, abstention from food, and glucose and bicarbonate of soda alternately, preferably by the mouth. Food should be started with caution, and a barley lactose solution is the first step to a fuller diet. CHRISTOPHER ROLLESTON.

Acidosis with special reference to that occurring in diseases of children ('*Bull. Johns Hopkins Hosp.*,' 1916, XXVII, *p.* 63).—**J. Howland** and **W. McKim Marriott**.—Acidosis is not uncommon in infancy and childhood. It is especially frequent in the severe diarrhœas of infancy, but may appear in a variety of diseases, and sometimes, apparently, alone. In older children it is recognised by the character of the respiration (hyperpnœa) and laboratory tests. In infants who are irritable, restless, and crying, it is difficult to say if hyperpnœa is present. Older children react promptly to alkali therapy, but infants usually die, though it may be possible to stop the clinical and laboratory evidence of acidosis. Alkalies may be given by mouth, by rectum, subcutaneously, or intravenously. A 4 per cent. solution of bicarbonate of soda is usually employed intravenously, and a 2 per cent. solution subcutaneously. J. D. ROLLESTON.

Acid intoxication in infancy and childhood ('*Boston Med. and Surg. Journ.*,' 1916, CLXXIV, *p.* 568).—**J. L. Morse.**—The most characteristic symptom, apart from the presence of considerable quantities of acetone bodies in the urine, is hyperpnœa without cyanosis. The rate of respiration is increased, both inspiration and expiration are prolonged, the normal relation between the two being observed. Another symptom is diminution in the output of urine. Vomiting is very common and diarrhœa is not infrequent, but there is nothing characteristic about either, and in many cases there is constipation. The breath has not infrequently a peculiar aromatic odour, but this is not always present and is decidedly difficult to recognise. Acid intoxication has been found in recurrent or cyclical vomiting, in the severe diarrhœa of infancy and early childhood, and in the course of or following various infectious diseases. Degenerative changes have been found in the parenchymatous organs, but nothing pathognomonic. Morse records five illustrative cases in infants aged from thirteen to twenty-eight months. J. D. Rolleston.

Acidosis with auto-intoxication in infants and children (*'Amer. Journ. Dis. Child.,'* 1915, IX, *p.* 28).—**C. R. Metcalfe** reports on 100 cases which occurred in apparently epidemic form at Concord in the course of $2\frac{1}{2}$ months. The ages ranged from 1 to 13 years, but the great majority—eighty—were between 2 and 8 years. Not more than a quarter of the children were neurotic. In twenty-one, adenoids were noted. Six had both adenoids and enlarged tonsils. All degrees of severity were seen. Nine died. The average duration of the fatal cases was thirty-two hours. An autopsy in one case showed fatty degeneration of the liver and congestion of the brain. The epidemic was one of first attacks, eighty-four were ill with acidosis for the first time, eleven cases were recurrent. Considerable quantities of acetone were present in the urine in every case. In only forty-five was the test for diacetic acid made and proved positive in fifteen. Oxybutyric acid was found only once. Treatment consisted in administration of alkalies by mouth or rectum, catharsis, rectal irrigation, and regulation of diet. J. D. Rolleston.

The elimination of uric acid in the infant (*'Riv. di Clin. Pediat.,'* 1915, XIII, *p.* 662).—**C. Francioni** gives details of twenty-six cases to show that increase in the elimination of uric acid of endogenous origin in the infant is due to different factors, such as the presence of disturbances of nutrition on the one hand, and of constitutional anomalies (neuroarthritic or eczematous diathesis) on the other. The increased products of the first factor are usually much more noticeable and constant than those due to the second. In the breast-fed infant, in order to determine whether in any given case the increased elimination of endogenous uric acid is due to the one or the other cause, an estimation of the phosphoric elimination has to be made in order to ascertain with sufficient exactness if the functions of nutrition are taking place normally. In the artificially reared infant this method of investigation is of no value, since phosphoric elimination is always greatly increased, and on the other hand uric acid elimination is too much under the influence of the nutritional function to be taken as an index of the diasthetic condition. Vincent Dickinson.

Excretion of magnesium sulphate injected subcutaneously (*'Amer. Journ. Dis. Child.,'* 1915, IX, *p.* 318).—**A. M. Courtney** and **H. L. Fales** derived great benefit from the use of magnesium sulphate in the convulsions of tetany in infants. In three cases they studied the magnesium and sulphuric acid metabolism on the days following injection. They found that there was no danger of a cumulative effect if the dose (4–10 c.c. of a solution of 8 grm. anhydrous $MgSO_4$ per 100 c.c.) was not repeated more than once in twenty-four hours. The injected SO_4 was immediately and completely excreted in the urine. J. D. Rolleston.

The amount of lipase in the organs (*'La Pediatria,'* 1915, XXIII, *p.* 625).—**A. Clerici**, from a series of experiments conducted on adult and young animals of varying ages, finds that the liver is the richest of all the organs in lipase, both in the young and in adults. The organs of the young have less lipase than the same organs in adults. This difference is especially noticeable in the case of the kidney, the renal extract of young and very young animals invariably contain less of the ferment than renal extract in adults. VINCENT DICKINSON.

Ophthalmology.

The blind child (*'New York State Journ. Med.,'* 1916, XVI, *p.* 23).—**F. P. Lewis** emphasises three things: (1) The necessity of recognising the fact that the child is blind, or has defective sight, at the earliest age possible; (2) the manner in which the brain is developed through the training of the remaining special senses in the absence of sight; (3) the existence of that unusual condition, more highly developed in the blind than in those who see, and what is sometimes termed the sixth sense, or touch at a distance, but which consists in the recognition of the nearness of any material body having a sufficiently large surface area, by the perception of its approach through some sense other than that of conscious sight, hearing, or personal contact. The author discusses how to determine whether the child is blind, how the blind baby should be dealt with, and how the blind child should be educated. J. ALLAN.

Ophthalmia neonatorum (*'Boston Med. and Surg. Journ.,'* 1916, CLXXIV, *p.* 745).—**G. H. Thompson.**—The State of Massachusetts provides the following preventive measures: (1) Notification of birth in forty-eight hours. (2) Use of an approved preventive in every lying-in hospital. (3) Free distribution of prophylactic. (4) Immediate reporting (six hours) by physician, nurse, or hospital, of ophthalmic cases. (5) Lying-in hospitals must report to State Department of Health on cured cases leaving hospital. (6) Authorisation of boards of health to deal with such cases. (7) State officers must advise with local boards of health and follow up cases reported. The result of these measures has been a considerable reduction in the number of cases. J. D. ROLLESTON.

Affection of the lacrymal ducts in the new born (*'Thèses de Paris,'* 1915-16, *No.* 92).—**Z. Hourmouziadès**.—Out of a total of 100,000 cases of eye disease treated at the Fondation Adolphe de Rothschild from 1912–1916 there were 250 cases of congenital affections of the lacrymal ducts. The ages of the patients ranged from 11 days to 4 years. One hundred and twenty-one were males, 129 females. In 86 the left eye, in 78 the right eye, and in 86 both eyes were affected. The most frequent condition observed was simple lacrymation with or without catarrhal conjunctivitis, and next most frequently purulent or muco-purulent dacryocystitis with or without conjunctivitis. The phenomena are due to an imperforate state of the nasal orifice at birth. The prognosis as a rule is favourable. The best treatment consists in methodical massage in the region of the lacrymal sac, combined with daily instillations of a 1 per cent. solution of silver nitrate. If a cure is not obtained by this means within a fortnight, catheterisation of the duct, followed by injections, will be required. J. D. ROLLESTON.

Blue coloration of the sclerotics and abnormal fragility of the bones (*'Arch. f. Chir.,'* 1915, CVII, *p.* 279).—**W. Hofmann** reviews the literature and records three personal cases: (1) Boy, with definite blue coloration of both sclerotics. At 6 years he broke his right leg, at 12 years the left clavicle, at 13 years the right metatarsus, and at 14 years the right ulna. (2) Man, aged 24 years, with fracture of the right patella from fall on knee. Deep blue coloration of both sclerotics. Fracture of left leg at 1 year old. His mother also has blue eyes, but not his sisters. (3) Man, aged 31 years, with deep blue-grey sclerotics. Fracture of right elbow when 1 year old. In 1913 he broke his left little finger and shortly afterwards his right ring finger. His brother, who also has blue sclerotics, has broken his left leg seven times and his right leg three times. Hofmann attributes the anomaly to a congenital weakness of the tissue of the mesenchyma, and regards it as a stigma of degeneration.

J. D. ROLLESTON.

A case of amaurotic family idiocy in one of twins (*'Arch. of Ped.,'* 1915, XXXII, *p.* 902).—**C. Herrman.**—The mother had been married nineteen years and had been pregnant six times previously. Both infants developed normally during the first five months; after that the patient paid less attention to his surroundings, was less active, and at 8 months was not able to hold his head up properly, whereas his twin sister could sit up alone. His first teeth appeared at 14 months, his sister's at 12 months. Examination of the fundus at the age of 20 months showed the characteristic cherry-red spot. The Wassermann and von Pirquet tests were negative. J. D. ROLLESTON.

The cause of the ophthalmoscopic appearances in amaurotic family idiocy (*'Lancet,'* 1916, I, *p.* 352).—**G. Coats**, after dealing with the contribution by F. E. Batten and S. Mayou on "Family Cerebral Degeneration with Macular Change" (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 158), states that for a histological study of the retina the material must be absolutely fresh, as post-mortem changes begin two hours after death; fixation must be perfect (Zenker's solution being the best), and the method of cutting must be suitable. He considered that in the retina, apart from the occurrence of œdema, the macular changes show marked differences in the two diseases, and these were enumerated. He repudiates the view which has been ascribed to him that the ophthalmoscopic appearances in amaurotic family idiocy are due to coagulation necrosis. Though the particular form of chromolysis, vacuolisation, etc., which characterise family cerebral degeneration closely simulates that which is seen in amaurotic family idiocy, the underlying cause may be different; and the race selectiveness of amaurotic family idiocy should cause hesitation in identifying it with a disease which is not race selective. J. ALLAN.

The cranial deformity of oxycephaly (*'Amer. Journ. Med. Sci.,'* 1916, CLI, *p.* 840).—**W. Sharpe.**—These cases are fairly common and are usually brought first to the ophthalmologist for failing vision due to secondary optic atrophy of varying degree. Sharpe regards the condition as primarily due to an early meningeal irritation with resulting premature closing of the sutures of the base and posterior portion of the skull. As the brain enlarges it tends to protrude through the anterior fontanelle, thus producing the characteristic deformity, and as the result of the increased intracranial pressure a choked disk with secondary optic atrophy occurs. Sharpe records four illustrative cases in children, aged from 4–15 years, in which subtemporal decompression was performed with good results.

J. D. Rolleston.

Trachoma and follicular conjunctivitis (*'New York Med. Journ.,'* 1915, cii, *p.* 1003).—**M. B. Beals.**—The usual routine treatment by bluestone, tannin, glycerids, argyrol, etc., has shown poor results in thousands of New York children. The author recommends the following treatment, which he calls " the intense bichloride rub " : Instill 1 drop of 10 per cent. solution of cocaine in each eye at intervals of five minutes for three applications, wait fifteen minutes ; fix a pledget of cotton wool the size of a pencil on a steel rod, dip this in 1 in 1000 perchloride of mercury solution, and having raised the lid from the eyeball, pass the wool as far up as possible, release the eyelid and pass the wool slowly from side to side, keeping the probe well away from the eyeball. Do the same with the lower conjunctiva. This should be repeated in five to seven days. If there be pain, a cold application may be used. One in 5000 bichloride solution should be instilled three times a day between the rubs. A feature of this treatment is that no scar tissue is formed.

J. Porter Parkinson.

Chancre of the bulbar conjunctiva in a child (*'Journ. de Méd. de Bordeaux,'* 1916, lxxxvii, *p.* 170).—**H. Fromaget.**—A boy, aged 10 years, presented an oblong ulcer of the right bulbar conjunctiva, 10 mm. long by 4 mm. wide, covered by a diphtheroid deposit. There was some pericorneal chemosis, but hardly any discharge, and no pain. In the right parotid region there was a mass of enlarged glands. There was some mottling of the chest and abdomen. Wassermann's reaction was positive. Rapid disappearance of the lesion followed intravenous injections of neo-salvarsan, but prolonged courses of treatment by biniodide of mercury pills was ordered (*cf.* British Journal of Children's Diseases, 1913, x, *p.* 522).

J. D. Rolleston.

Meningococcal uveitis (*'Thèses de Paris,'* 1915–16, *No.* 17).—**F. Gaudin.**—Uveitis occurs in from 4 to 6 per cent. of cases of meningococcal meningitis. It is almost always unilateral. The lesions may start in the anterior segment, giving rise to acute purulent irido-cyclitis, followed by panophthalmia ; but more frequently the process is subacute and plastic, and almost always entails atrophy of the globe. In other cases the deep parts are affected first, giving rise to suppurative choroiditis or the formation of a pseudo-glioma, or, in very mild cases, to foci of disseminated choroiditis. The affection sometimes ends in a mere diminution of visual acuity, but almost always it leads to blindness, with atrophy of the globe or the formation of a pseudo-glioma. Local serotherapy gives the best results (*vide* British Journal of Children's Diseases, 1916, xiii, *p.* 13). The thesis contains the histories of eleven cases, nine of which occurred in children aged from 7 months to 12 years.

J. D. Rolleston.

Ocular complications of cerebro-spinal meningitis (*'Presse Méd.,'* 1916, xxiv, *p.* 8).—**Rohmer** records a case of suppurative iritis in a child, aged 10 years, suffering from cerebro-spinal meningitis. In addition to treatment by anti-meningococcal serum, two subconjunctival injections were given consisting of 1½ c.c. of serum taken from a blister on the child's arm. Improvement occurred the next day, and recovery took place.

J. D. ROLLESTON.

Optic neuritis with cerebellar ataxia in pertussis (*'Deutsch. Zeitschr. f. Newenheilk.,'* 1915, LIII, *p.* 321).—**A. Strümpell.**—A boy, aged 4½ years, developed a typical attack of whooping-cough in the middle of July. On August 12th he complained of his eyes, and on the 13th became quite blind and was unable to stand. The symptoms did not follow an attack of coughing, and the paroxysms had already begun to decline in severity. Ophthalmoscopy showed marked optic neuritis. The ataxia disappeared in about three or four weeks, but it was not till the end of October that the optic neuritis cleared up. Strümpell attributes the condition to encephalitis, as in the case described by von Domarus (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 326).

J. D. ROLLESTON.

Injury to eye from explosion of golf ball (*'Journ. Amer. Med Assoc.,'* 1916, LXVI, *p.* 1304).—**E. J. Bernstein** reports another case of a severe burn to the eye caused by the bursting of the core of a golf ball. The patient, a girl, aged 12 years, had been using the ball as a toy. The eye recovered, leaving only a slight central leukoma (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, *p.* 521; 1914, XI, *p.* 281).

T. R. WHIPHAM.

Bird-shot removed from the vitreous through the pupil (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 1231).—**K. Pischel** reports the case of a boy, aged 12 years, who two days previously had received a shot in his left eye. The cornea and iris were injured and the lens was cataractous. A skiagram showed a shot in the vitreous downwards and inwards. The cataract was removed in the hope that it might be possible to remove the shot later. The patient was sent home, but returned nearly three months after the accident with the history that the day before, while wrestling with another boy, he fell on him and bumped his head against the other boy's, with the result that he felt a sharp pain in the left eye lasting several hours. The shot was to be seen lying in the lowest part of the anterior chamber, whence it was removed under an anæsthetic. A month later vision was considerably impaired, and behind grey bands in the vitreous an apparently detached retina could be seen. T. R. WHIPHAM.

Glioma of the retina (*'Pediatrics,'* 1916, XXVIII, *p.* 193).—**J. H. Hester.**—Glioma is the only tumour known to arise in the retina. It is essentially malignant, and occurs only during infancy and early childhood. In most cases it is probably congenital. It is more frequent in males than in females. There are four stages. In the first the disease is manifested only by a golden-yellow reflex from the pupil of the affected eye, and by diminution or complete loss of vision. The second stage is characterised by increased tension, and the eye becomes irritated and painful. In the third stage the tumour grows outward from the eye, first along the optic nerve and then in other directions, especially through the cornea. The eye at length is transformed into a bleeding mass, which fills the entire orbit. In the fourth stage the tumour spreads to adjacent and remote organs, and death takes place by exhaustion or by extension of the neoplasm to vital organs. The disease usually lasts several years. Hester records a personal case in a baby boy of 22 months. Enucleation of the eye was performed, but recurrence took place. J. D. ROLLESTON.

Operative treatment of high myopia (*'Lancet,'* 1915, II, *p.* 1141).—**A. H. Thompson**, at a meeting of the Royal Society of Medicine, Section of Ophthalmology, read a paper on the late results of the operative treatment of high myopia. The degree most suitable for operation was 16 to 22 diopters. In young children, whose myopia was certainly progressive, a limit of 14 D. might well be assigned. With a myopia of more than 22 D. the chance of the eye remaining free from destructive processes was small. His method had been a free needling of the lens capsule, after which it was necessary to watch the patient carefully day by day, and in the event of a rise of tension let out the lens matter by means of a keratome incision through the cornea. Should a secondary membrane form some years after, this must be needled. He did not think the operative treatment of high myopia tended to counteract the increase in the long axis of the eyeball, though obviously the removal of the lens had the effect of diminishing the result of the lengthening of the axis of the eyeball on the refraction by about one half. J. ALLAN.

Review.

DISEASES OF INFANTS AND CHILDREN. By HENRY DWIGHT CHAPIN, M.D., and GODFREY ROGER PISEK, M.D. Third edition. Royal octavo. Pp. xviii + 578, with 179 illustrations and 12 coloured plates. London: Baillière, Tindall & Cox, 1916. Price 15*s.* net.

THE third edition of the 'Diseases of Infants and Children,' by Drs. Chapin and Pisek, of the New York Post-Graduate Medical School and Hospital, presents no new or striking features. Into some 550 pages the authors have set themselves to compress the whole of our knowledge of the disorders of childhood from diarrhœa to paramyoclonus multiplex. Room is even found for sections upon surgical disorders and for the diseases of the skin, ear, and eye. In such narrow limits it is not possible to do more than present a framework, which contains little or no trace of the distinguished authors' own views and predilections. On the whole it can be said with confidence that the space available has been used to the best advantage. The chapters on feeding are the most complete in the book, and contain many useful recipes, although the names of some of the ingredients sound strange to English ears. The coloured prints of the rashes of the exanthemata, with the exception of Plates IX and X, are of little value, and might well be omitted. On the other hand, many of the photographs reproduced have high value as illustrations, and the selection is well made. The authors make no attempt to avoid the use of a commonplace medical jargon. We read of "septic rises of temperature," for example, of a "negative chest" and of "disease conditions." On p. 96 is the statement: "Mensuration of an atropic (*sic*) extremity or muscle groups are made in cases of infantile paralysis." H. C. C.

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Original Articles.

CONGENITAL TUBERCULOSIS—A SURVEY.

By F. Parkes Weber, M.A., M.D., F.R.C.P.London.

Genuine cases of congenital tuberculosis in human beings are undoubtedly very rare, and it has been generally thought that they only occurred when the mother was in an advanced stage of tuberculosis (probably suffering from miliary dissemination and "tuberculous bacillæmia"), but more recent observations (Weller, Warthin, Novak and Ranzel) seem to show that placental tuberculosis may likewise occasionally develop when the mother's tuberculosis is not far advanced, or even latent or quiescent.

I shall not discuss the observations and writings of Baumgarten, Maffucci, Jani, Walther, Jäckh, Karlinski, Wahlen, F. F. Friedmann, and others, regarding the possible primary infection of the human ovum from the mother or its infection by means of tubercle bacilli reaching it with the father's semen (at the time of impregnation or later on). Sitzenfrey (1909) sums up his conclusions on the available data regarding part of the subject in the following words: "If we desire to express concisely the result of our discussion regarding the transmission of the tubercle bacillus from the father or the mother to the germ, we may say that up to the present time no certain proof has been forthcoming that a transmission of this kind (in the human subject) ever occurs; but we must also say that we have no conclusive reasons for altogether denying the possibility of such an occurrence." According to S. A. Knopf (1902) "the extreme rarity of *primary* genital tuberculosis in vagina or uterus seems the best clinical evidence that direct paternal bacillary transmission of tuberculosis practically does not exist." According to Lartigau (London Congress, 1901) there were four reported cases, but infection subsequent to conception was possible. On the other hand there were a good many indisputable cases on record of the maternal transmission of tubercle bacilli to the fœtus.

The subject now to be considered is that of congenital tuberculosis due to intra-uterine infection of the child from the mother by way of the placenta and fœtal membranes—with or without the presence of obvious macroscopic or microscopic tuberculous changes in the placenta. Some cases of placental tuberculosis without definite tuberculous infection of the fœtus will also be referred to.

The examination of the placenta sometimes requires the expenditure of a very great deal of time and trouble before the presence of tuberculous lesions or tubercle bacilli can be detected in it. Mere macroscopic inspection can seldom be relied on. Indeed, Schmorl declared that as many as 20,000 sections might have to be examined under the microscope before tuberculous lesions, even when really present, could be found in a placenta. For demonstrating the presence of tubercle bacilli in the placenta Uhlenhuth's antiformin method has sometimes yielded excellent results and saved a great deal of time and (possibly fruitless) labour.

There are probably different ways in which the tubercle bacilli can pass from the mother to the fœtus, and in the following pages various possibilities will be referred to. Very interesting are the cases of *late* congenital tuberculosis in which the infection of the fœtus is supposed to have occurred during labour (*intra-partum*); the tearings and squeezings of the placenta, connected with the uterine contractions (labour "pains") or artificial manipulations, may involve tuberculous foci and thus give rise to the transference of tubercle bacilli from the maternal placenta, to the fœtal blood stream, more or less in the way suggested by Gärtner, Rietschel, Sitzenfrey, Pankow, Dietrich, and others. In cases apparently of this kind the child has lived for a considerable time, up to three or even six months.

To a certain extent such cases remind one of what is supposed to happen in some kinds of "traumatic tuberculosis," that is to say, in cases where a contusional trauma or a wrench damages or ruptures an old quiescent tuberculous focus and thus leads to fresh local activity and possibly to metastasis or wide-spread dissemination of the tuberculosis. Indeed, in tuberculous women childbirth and manipulations connected with it may act as a contusional trauma, or wrench, and in rare cases cause tuberculous infection of the fœtus or (more probably perhaps) may give rise to metastasis or generalised tuberculous dissemination (acute miliary tuberculosis, especially involving the lungs) in the mother as the result of injury involving some (possibly previously quiescent) tuberculous focus in her pelvic viscera.*

Rindfleisch (1890) reported the case of a child, born in the ninth month of pregnancy, who died eight days after birth. The necropsy showed tuberculous caseous pneumonia and large caseous nodules in the liver.

Schmorl and Birch-Hirschfeld (1891) described the first† undoubted case of congenital (fœtal) tuberculosis, in which it was evident that the tubercle bacilli reached the fœtus by way of the placenta. A maid-servant, aged 23 years, died in the seventh month of her first pregnancy. The cause of her death was general miliary tuberculosis, probably a dissemination from primary renal tuberculosis. The placenta at first sight appeared to be almost normal, and microscopically showed no definite tuberculous changes, but it was found to contain tubercle bacilli, which were likewise present in blood-films taken from the umbilical vein. Slight microscopic changes and tubercle bacilli were detected in the liver, but not in other organs of the fœtus. The authors suggested that the tuberculous infection of the fœtus did not occur till shortly before its death, which apparently took place almost simultaneously with that of the mother. The fœtus was known to be living 20 minutes before the mother died, but was found to be dead when delivered by Cæsarean section directly after the death of the latter.

Sabouraud's case (1891) was that of a child who died eleven days after birth. The mother died of pulmonary tuberculosis. The necropsy on the child showed miliary, and larger, tuberculous nodules in the liver and spleen, containing tubercle bacilli. Unfortunately the placenta was not carefully examined.

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* *Cf.* F. Parkes Weber, 'Traumatic Pneumonia and Traumatic Tuberculosis,' London (Adlard), 1916, p. 31: references to cases of acute miliary tuberculosis following childbirth or abortion.

† That is to say, the first proved case in *human beings*. In regard to earlier undoubted cases of *congenital tuberculosis in cattle* see Johne's case of tuberculosis in a fœtal calf at the eighth month of intra-uterine life (1885). The mother-cow had advanced pulmonary tuberculosis.

Thiercelin and Londe (1893) examined the body of a child who died four days after birth. They found tubercle bacilli, but no macroscopic changes, in the spleen, liver and kidneys. A guinea-pig which was inoculated with 2 c.c. of blood, taken from the umbilical vein at the child's birth, died of general tuberculosis. The child's mother had fatal pulmonary and intestinal tuberculosis. The condition in which tubercle bacilli but no actual tuberculous lesions are found in the fœtus or child has been named by Honl (1894) "status bacillaris" to distinguish it from true congenital tuberculosis with structural tuberculous changes.

Londe (1893), investigating the offspring of tuberculous mothers, gave his results of inoculation of guinea-pigs in six cases. One mother had pulmonary tuberculosis at an early stage and gave birth to a living child. Inoculation of a guinea-pig with the placenta gave a negative result. Four other women (with more advanced pulmonary tuberculosis) gave birth to children who lived only a short time. One of these four cases was the one recorded (1893) by Thiercelin and Londe (see back). In two of the other three cases inoculation of guinea-pigs with the placenta produced tuberculosis. In the remaining case of the four the inoculation test gave a negative result. The sixth case was that of a woman suffering from pulmonary, intestinal, peritoneal, and laryngeal tuberculosis, who aborted. Inoculations with the placenta and fœtal blood and organs all produced tuberculosis in guinea-pigs, most virulent when from the placenta. In no case was any macroscopic tuberculosis found in the fœtus or children examined (*cf.* remarks in previous paragraph).

Lehmann (1893) described a case in which there were definitely tuberculous changes in the placenta without any definitely tuberculous changes in the fœtus. A woman, aged 26 years, died from miliary tuberculosis in the eighth month of her pregnancy. A few minutes after her death the fœtus was removed by Cæsarean section, but it was (apparently just) dead. Its liver, on microscopical examination, showed small focal collections of round cells, but they were not associated with the presence of tubercle bacilli, and nothing suggestive of tuberculosis was discovered elsewhere in the fœtus. The placenta on the other hand contained miliary nodules which on microscopical examination were found to be of typical tuberculous structure and to contain a few tubercle bacilli.

In a second case (published in 1894) Lehmann found large tuberculous foci in the placenta. The mother suffered from chronic pulmonary and laryngeal tuberculosis. No tuberculous changes could be found in the child, who died ten days after birth, but Lehmann thinks that from the fœtal portion of the placenta the fœtus itself may be infected though no definite tuberculous changes need manifest themselves in the liver and other organs during the early days of extra-uterine life (*cf.* further on, suggestions of Rietschel, Sitzenfrey, etc.).

In a third case (1894) of Lehmann there was certainly fœtal tuberculosis; the placenta was however unfortunately not examined. The mother died with tuberculous meningitis three days after delivery. The (somewhat premature) child died on the day after birth, and the post-mortem examination showed miliary tubercles in the liver, spleen, one kidney, and myocardium, and also tuberculosis of bronchial and abdominal lymphatic glands.

Schmorl and Kockel (1894) described five cases of tuberculosis of the human placenta, in two of which tubercle bacilli were found also in the fœtal liver. In two of the cases no evidence of tuberculous infection of the fœtus could be discovered. In the fifth case the child died a few days after birth, but no post-mortem examination was made. All five mothers died before or not long (not many days) after delivery, and all of them had advanced or miliary tuberculosis.

In regard to three of their cases I will give further details from an abstract I made for a medical journal at the time: (1) A woman, aged 26 years, in whom a necropsy revealed acute general miliary tuberculosis; she was in the eighth month of pregnancy, and was brought to the hospital in an unconscious condition. Cæsarean section was performed during the agony of death, but the child died after two hours. (2) A woman, aged 25 years, who died with acute miliary tuberculosis during pregnancy. (3) A pregnant woman, aged 33 years, with chronic laryngeal and pulmonary tuberculosis, who died suddenly of profuse hæmoptysis. Cæsarean section was performed soon after the mother's death, but life was already extinct in the child.

In all three cases placental tuberculosis was found, but only very little in No. 3, and less in the placenta than in other organs in the other two cases. The tubercle bacilli were probably in all three cases carried to the placenta in the circulating blood; but in No. 2, where there was also tuberculous peritonitis, the bacilli, though less probably, might also have been carried from the peritoneum into the uterus by the Fallopian tubes. In cases of acute miliary tuberculosis the bacilli circulating in the blood must be equally distributed to all organs, one would think, but in order to explain why in Cases

1 and 2 less tuberculosis was found in the placenta than in the other maternal viscera it might be suggested that the placenta was more resistent to the tubercle bacillus. In all three cases tubercle bacilli were found in the fœtal placental villi, but only in Case 2 were any bacilli found in the body of the fœtus; even in that case there were no macroscopic changes, but bacilli could be detected by the microscope in the liver, and a lymphatic gland in the neighbourhood of the liver ("status bacillaris," see below). The authors thought that the reason why only few bacilli had passed into the fœtal circulation was to be found in the changes produced in the vessels of the tuberculous villi of the placenta. These changes, consisting in the closure of vessels by the formation of hyaline thrombi and the overgrowth of the endothelium, to some extent seemed to constitute a barrier hindering the spread of tuberculosis and the entry of tubercle bacilli into the fœtal circulation.

In regard to Case 2 of Schmorl and Kockel it may be noted that J. Honl (1894) named the condition in which tubercle bacilli could be found in the fœtal organs, though unaccompanied by macroscopic or microscopic tuberculous changes, *Status bacillaris,* in order to distinguish it from the condition of true fœtal tuberculosis, in which macroscopic or microscopic tuberculous lesions were present.

Kockel and Lungwitz (1894) investigated placental tuberculosis in cows in relation to fœtal tuberculosis. I shall again quote an abstract which I made of their paper at the time. They carefully examined the uterine contents in two tuberculous cows killed during pregnancy. The fœtus in the first case was of about the sixth month, and both macroscopically and microscopically gave evidence of tuberculosis in the liver, and in the portal and bronchial lymphatic glands. The mediastinal and some other lymphatic glands were also tuberculous, but were not examined microscopically. Some scattered grey specks were seen in the lungs just beneath the pleura, but no tubercle bacilli or typical tuberculous structure could be detected in them. No evidence of tuberculosis was found in the other organs.

The second fœtus was about 4½ months old, and evidence of tuberculosis was found in the liver, spleen, left kidney, left lung, and especially in the portal, mediastinal, one bronchial, and some other lymphatic glands.

In both cases there was extensive tuberculosis of the uterine mucous lining, and in the first case tubercle bacilli were found also (though few only) in the chorionic (fœtal) villi; in the second case, however, no bacilli could be found in the tissue or vessels of the chorion, though a considerable number of bacilli were seen in the epithelium, and occasionally also between the epithelium and the membrana propria of the chorion. In the epithelial cells containing tubercle bacilli the nucleus could often be seen properly stained, and this, the authors suggested, might lend support to the view that the epithelium offered a barrier to the passage of the tubercle bacilli from the mother to the fœtus. It might likewise be suspected that the gelatinous tissue of the fœtal villi and chorion did not afford a good nutrient medium to the development of the bacilli.

The authors thought that their observations supported the view of Birch-Hirschfeld, that the mode in which the tubercle bacilli passed from the maternal to the fœtal circulation was by "growing through" the placenta, a view suggested to him by analogy from his observations in cases of anthrax. The authors further called attention to the localisation of the changes in tuberculosis of the fœtus, namely, chiefly in the liver and the lymphatic glands, especially the portal, bronchial, and mediastinal glands.

Perhaps congenital tuberculosis is less rare in cattle than in human beings, but the Danish investigator, Bang, in a pamphlet translated by M. Bray, and quoted by Niven, stated that all the young calves in a herd of about 208 cows were injected (1892–1895) with tuberculin, and in the whole series only two calves were found to be tuberculous from birth, and those merely with localised insignificant tuberculous lesions. On the other hand, A. M. Bergmann, of Malmö (1910), found that, though congenital tuberculosis in calves was undoubtedly rare, it was not rare enough to be without practical importance. MacFadyean, in 1899, when he demonstrated a specimen of congenital tuberculosis in a calf at the Pathological Society of London, said that he had himself seen only one example before 1897, but had since then had three specimens forwarded to him. One of them was a calf, only a day or two old, showing tubercles distributed through the liver, spleen, lungs, and myocardium, many of the lesions being already calcified. (MacFadyean incidentally pointed out that calcification was not necessarily a criterion of the age of a tubercle.)

Bar and Rénon (1895) employed the guinea-pig inoculation test in order to obtain further evidence regarding the transmission of tuberculosis through the placenta. They selected five parturient women, who were tuberculous, and at each childbirth, when the umbilical cord was divided, they injected placental blood subcutaneously into guinea-pigs. The result was negative in three cases and positive in two. In the first of the two latter the fœtus had died shortly before birth, and though no definite tuberculous lesions were detected in its organs, two out of three guinea-pigs, inoculated with pulp from its viscera, succumbed as the result to tuberculous infection. The second child died of broncho-pneumonia on the fortieth day after birth. Both the mothers had advanced pulmonary tuberculosis and died soon after confinement.

Doléris (1898) reported two cases of tuberculous mothers. In one of them, in whom the disease was limited to the lungs, the fœtus apparently escaped. In the other no tuberculous lesions could be found in the fœtal organs, but the guinea-pig inoculation test gave a positive result.

Auché and Chambrelent (1899) recorded the case of a woman, aged 40 years, with advanced tuberculosis of the lungs, etc., who died 5 days after spontaneous premature labour, in the seventh month of pregnancy. The infant (a female) was kept alive for 26 days in an incubator, though gradually losing weight all the time. The necropsy on the child showed advanced tuberculosis of the liver and spleen with less marked tuberculous changes in the kidneys and lungs. Tubercle bacilli were present in great numbers in the liver and spleen. There was also tuberculous endocarditis in the right ventricle; and the aortic and bronchial lymphatic glands, and those at the hilum of the liver were tuberculous. The placenta in this case showed tuberculous changes and contained tubercle bacilli. Animal inoculation tests with the child's organs, with pieces of the placenta, and with blood from the umbilical cord, all gave positive results for tubercle bacilli. This case showed that the fœtal tissues, when once infected (by way of the placenta), do not form a bad soil for the growth of tubercle bacilli, as P. von Baumgarten supposed they did when he formulated his theory of congenital "latent tuberculosis."

G. d'Arrigo, of Naples (1900), made a series of experiments with guinea-pigs in order to study the transmission of tuberculosis from the mother through the placenta to the fœtus. A certain number of female guinea-pigs were infected with tuberculosis and then impregnated by healthy males. Others were first impregnated and then infected. The latter nearly all aborted, but in the case of one which did not, tuberculous lesions were found in the placenta and in the fœtal liver. Those rendered tuberculous before impregnation showed varying lesions (according to the period at which they were killed) in the placenta, chorion, etc., and fœtal liver. The animals born at full term were feeble and died in 5 to 16 days from general tuberculosis.

Bossi (1903) described a series of experiments on gravid rabbits and guinea-pigs with reference to the transmission of tubercle bacilli from mother to fœtus. When it was known that the animal was pregnant tubercle bacilli were given by intravenous, subcutaneous, or intra-peritoneal injection. The results were watched, and in no single instance were tubercle bacilli found in the viscera or blood of the fœtus. In only three cases were bacilli found in the placenta, and in each of these three cases the animal aborted. Bacilli were never found in the milk. Abortion was a frequent result of the injections, and all the mother animals died in the puerperium, at various periods after the labour. In these experiments the conditions were obviously very unlike any that occur in Nature.

E. Runge (1903), a pupil of Schmorl, made a careful study of a case of placental tuberculosis in a woman, aged 32 years, who died with old pulmonary tuberculosis and recent disseminated miliary tuberculosis, in the fourth month of pregnancy. Hæmorrhage between the placenta and the uterine wall had led to partial separation of the placenta. Runge found foci of round cells, containing tubercle bacilli, in the decidua basalis. These tuberculous foci showed necrotic changes in their centres and had led to destruction of the walls of neighbouring blood-vessels, thus giving rise to the above-mentioned hæmorrhagic partial separation of the placenta. Unfortunately the fœtus was not examined.

Stoeckel, at Erlangen (1903), exhibited the abdominal organs of of a child (of a tuberculous mother), showing congenital miliary tuberculosis. Microscopic examination of tubercles in the liver proved the presence of numerous tubercle bacilli. The child died 14 days after birth, and the stage of the tuberculosis was certainly too advanced for the idea of a so-called *intra-partum* infection of the fœtus to be entertained.

Simmonds, of Hamburg (1904), related the case of a woman, aged 31 years, who died with tuberculous peritonitis 20 days after having given birth to an apparently healthy child at full term. At the necropsy the tuberculous peritonitis seemed to have started from tuberculous endometritis and salpingitis. The child gradually wasted, and died two months after birth. On post-mortem examination it was found to have advanced pulmonary tuberculosis with extensive caseous changes. There were tubercles in the pleuræ and in the liver. The bronchial, but not the mesenteric and abdominal, lymphatic glands were affected. Owing to the advanced stage of the disease Simmonds thought it must be of congenital (intra-uterine) origin and connected with the tuberculous endometritis of the mother, but unfortunately the placenta was not thoroughly examined. This may have been an example of *late* (*intra-partum*) congenital tuberculosis (see further on).

Schmorl and Geipel (1904) contributed a valuable paper on tuberculosis of the human placenta. They examined twenty placentas from tuberculous women, and in nine of them discovered tuberculous foci. Of the 20 women one died of miliary tuberculosis, and one of tuberculous meningitis following tuberculosis of the bronchial glands; eleven died with advanced tuberculosis during or soon after the puerperal period; four suffered from moderate and three from commencing pulmonary tuberculosis. Of the 20 placentas 18 were of the terminal period of pregnancy, one was of the seventh, and one of the eighth month. Evidence of tuberculosis was discovered in eight of the full-term placentas and in the seventh month placenta (in nine out of the twenty, as stated above). The authors described exactly the various tuberculous changes which they found in the placentas and classified them into four groups. In one placenta, that from the woman with miliary tuberculosis, the changes were so advanced that they could be recognised with the naked eye as certainly tuberculous in nature. The authors thought that when the placenta was tuberculous, the fœtus, if not already tuberculous, might be infected from the placenta at birth (*cf.* suggestions of Rietschel, Sitzenfrey, etc.). In such cases the newly born child would at first show no tuberculous lesions (that is to say, there would be no evidence of tuberculosis), though the tubercle bacilli in its organs might give rise to anatomical tuberculous changes later on.

Martha Wollstein (1905) described a case of congenital tuberculosis. The mother died six days after confinement and the child died 19 days after birth. The placenta showed advanced tuberculous changes and the infant showed miliary tuberculosis of the lungs, spleen, liver, kidneys, and mesentery.

F. Hamburger (1906) described a case of apparently congenital tuberculosis in a child who died at the age of 7 weeks. The mother had died of tuberculosis soon after the child's birth. The necropsy on the child showed generalised subacute tuberculosis, with chronic caseous tuberculosis of the lymphatic glands at the hilus of the liver. This may have been an example of *late* (*intra-partum*) congenital tuberculosis (see further on).

Jung (1906) reported the case of a tuberculous woman, who died thirteen days after spontaneous delivery of a child in the eighth month of pregnancy. The necropsy showed renal, osseous, peritoneal, and intestinal tuberculosis. There was likewise tuberculous endometritis. The left Fallopian tube was full of caseous material; in the right tube there was commencing tuberculosis in the portion furthest removed from the uterus. In the chorion close to the edge of the placenta there were many miliary tuberculous nodules containing tubercle bacilli. The child was taken away by the father, and its ultimate fate is not stated.

W. Carl (1907) found extensive tuberculous changes in the placenta, together with tuberculous caseous endometritis, in the case of a woman, aged 25 years, who died from tuberculous meningitis in the seventh month of pregnancy. By microscopic examination of the placenta Carl discovered a condition of "endometritis deciduæ basalis caseosa," which had already spread to the fœtal villi. In the organs of the fœtus itself neither tuberculous changes nor tubercle bacilli were detected.

Herman (Royal Academy of Medicine in Belgium, 1908), rendered a large number of guinea-pigs tuberculous by feeding them with human tubercle bacilli. During the period of the experiment the infected guinea-pigs gave birth to 47 young ones (including one fœtus), and in two of the 47 Herman discovered tuberculous lesions in the liver, containing tubercle bacilli, proving the presence of congenital tuberculosis.

Huguenin (1908) examined a fœtus born prematurely of a severely tuberculous mother, and was able to prove the presence of tubercle bacilli in the fœtal organs by the guinea-pig inoculation test. In another (similar) case the guinea-pig had not yet been killed, but a nodule had already formed at the site of inoculation.

Honjio (1909) described a case of human congenital tuberculosis in a five-months fœtus. The retroperitoneal lymphatic glands were enlarged and were proved to be tuberculous, both by microscopical examination and by the animal-inoculation test. The mother died of pulmonary and intestinal tuberculosis with general miliary dissemination.

Rietschel's case (1909) was that of the child of a woman suffering from advanced tuberculosis, who died one day after childbirth. The infant, as soon as born, was removed from its mother, but in about a month's time presented clinical signs of tuberculosis and died after three months (from generalised tuberculosis). Rietschel argued strongly in favour of the tuberculosis in this child having been congenital, and not acquired during extra-uterine life. Unfortunately no microscopical examination of the placenta was made, but in one of two somewhat similar cases (Sitzenfrey) the placenta was examined and proved to be tuberculous. Rietschel suggested that in such cases the child might have escaped infection with tubercle bacilli during intra-uterine life until the actual onset of the uterine contractions of labour. With A. Gärtner (1893) he explained the likelihood of a tuberculous lesion in the placenta being ruptured during some stage of the labour, so as to cause tubercle bacilli to be discharged from the placenta into the fœtal circulation. This *late* (*intra-partum*) kind of congenital infection might, it was maintained, explain why the signs of tuberculosis sometimes developed such a relatively long time after birth, as to lead to the supposition that the disease was of extra-uterine origin. In one case supposed to be of this kind (Sitzenfrey) the child lived to the age of six months.

(*To be continued*).

THE TEETH IN RICKETS.*

By J. Lawson Dick, M.D., F.R.C.S.

These observations on the teeth in rickets form part of a general examination of 1000 school children attending L.C.C. schools in the East End of London. Without entering into the larger results it may be stated that 80 per cent. showed distinct evidence of rickets. In other words, practically all children living under conditions such as prevail in the East End of London have to struggle through a rickety phase of their existence in the first two years of their life, and this struggle leaves its marks in certain definite signs or stigmata which persist during the whole of the child's school career. A special point was that the children were mostly Jewish children. They were purposely taken to show the relationship between nutrition and rickets. As a rule the nutrition, especially the fat nutrition, of Jewish children is very good, and over 80 per cent. of the children were breast fed for from twelve to eighteen months.

Defect in the calcium metabolism, especially in the laying down of calcium salts throughout the skeleton, is the most prominent feature in rickets, and the one responsible for most of the physical signs which mark the disease. Nowhere is this factor more marked than in the teeth. In rickets caries is exceedingly common, and hypoplasia, or defective calcification of the enamel, is well marked.

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* A paper read before the Section of the Study of Disease in Children of the Royal Society of Medicine on May the 26th, 1916.

A hypoplastic condition of the teeth is characterised to the naked eye by a defective formation of the enamel and frequently stunted growth of the teeth. There may be only a pitting, producing a honeycombed appearance of the enamel, or the enamel covering is slight and the cutting edge of the teeth presents sharp points, giving a characteristic appearance to the tooth. The defect usually extends from the cutting edge and may, in severe cases, involve the whole crown. As in syphilis, the condition is found typically in the permanent dentition, but whereas notched incisors and the contracted first molars of syphilis are but rarely met with in school children, the hypoplastic teeth of rickets are common. In everyday life one constantly sees these teeth and notes how well they often last. Thus frequently a smoker is seen whose teeth have been worn down in depth, and only short stumpy teeth are left, with a layer of enamel all round the cutting edge and the dentine exposed in the centre of the biting edge.

The calcification of the teeth begins about the fifth month of intra-uterine life, and the following diagrams (Figs. 1, 2, 3) give the rate of progress of calcification at various periods for both the temporary and permanent teeth.

The only teeth of the permanent set which show any signs of calcification at birth are the cusps of the first molars. Fig. 3 shows the portion of the enamel which has undergone calcification at the end of the first two years of life, and the parts affected by the commonest form of hypoplasia. In the typical form of hypoplasia commonly met with, the teeth affected are the central and lateral incisors, the tips of the canines, and the crown of the first molars. The condition is symmetrical, affecting both jaws. Usually the depth of the defect is greater in the enamel of the central incisors than of the lateral incisors, and it will be noted that the enamel affected is identical with that laid during the first two years. The condition is almost pathognomonic of rickets. Rickets is the only condition which interferes with the deposition of calcium over this prolonged period.

In cases of acute illness, especially fevers, the finger-nails are apt to show grooves marking the state of depressed growth of the cells of the bed of the nail during the progress of the disease. In the case of the teeth a groove more or less broad, or even a succession of grooves with healthy enamel in between, may mark attacks of grave illness in the child. Frequently without a history, a shrewd guess can be made at the period of occurrence of some serious illness by the part of the enamel of the teeth which is affected.

But it is usually a grave and prolonged illness which thus leaves its mark, more especially measles followed by whooping-cough. Scarlet fever is less likely to have this effect. The internal secretory glands apparently play a large part in the defence of the body during attacks of infectious disease, and probably no glands play such a large part as the thyroid. The thyroid apparatus, more especially the parathyroid, as pointed out by Loeb, is largely concerned in governing the calcium metabolism of the body, and any depressing cause which makes extra demands on the glands over a prolonged period, when calcium is being actively assimilated and laid down in the bones and teeth, is liable to show itself in defects of the enamel.

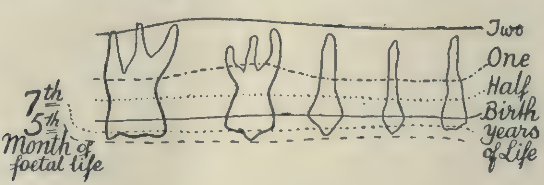

FIG. 1.

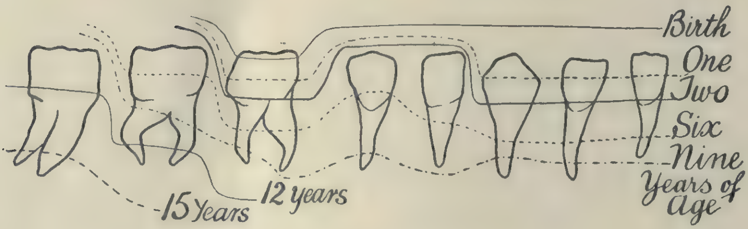

FIG. 2.

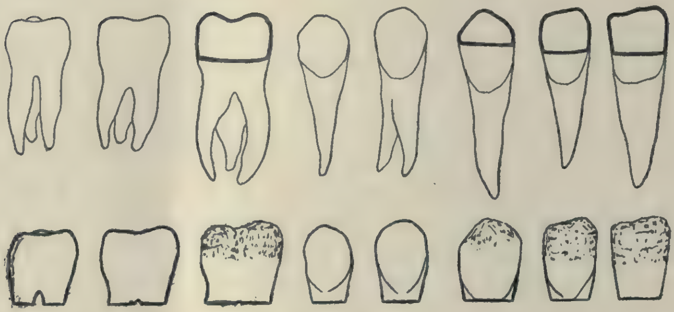

FIG. 3.

Hypoplasia due to congenital syphilis is rare, whilst the form due to rickets is exceedingly common among school children. At birth calcification has involved the crowns of the deciduous incisors, the cusps of the deciduous canines and deciduous molars, and the tips of the cusps of the first permanent molars. The portions of the temporary enamel not yet calcified at birth in the temporary set frequently suffer from hypoplasia. Any disturbance in the function of the ameloblasts, the cells which, according to Tomes, either secrete the enamel or in which the calcium salts are deposited, will lead to the enamel being thin in parts and to the lime salts being imperfectly laid down, so that the compact enamel is more easily disintegrated. In other words, the agents which determine the tendency to decay are those which affect the soft enamel organ in the earliest history of the tooth and not those which affect the enamel after the tooth has been erupted. Ewan Waller holds that alteration in the quantity and quality of the saliva in hypothyroidism are prime factors in the causation of decay. Lactic acid produced by fermentation of carbohydrates is generally held to be the chief factor in producing caries. Waller believes that in thyroid inadequacy the parotid saliva is rendered less alkaline, or actively acid, from deficiency of calcium bicarbonate in the saliva, and that therefore the saliva fails to neutralise the lactic acid. Possibly this is a factor, but the chief factor is probably the manner in which the calcium salts are deposited in the soft enamel organ.

Seafaring communities are said to have good teeth, and this is generally attributed to the action of ozone and pure air. But more likely causes are the favourable conditions under which the children of such communities are brought up in early life, as regards fresh air, sunlight and ventilation, and the consequent better balance of the internal secretions controlling the processes of growth throughout the body. Professer Keith, in his fascinating book, 'The Antiquity of man' (p. 12), speaking of the Coldrum collection of Neolithic men, draws a comparison between Neolithic and modern man as regards their teeth :

"Amongst modern Kentish folk, as is the case all over modern Britain, there is a tendency to crowding and irregularities of the teeth ; the palate and jaws do not grow and expand sufficiently in youth to give room for a symmetrical eruption of the teeth. The nose is narrow and the palate contracted, and its vault is high. The teeth are not worn down as in Neolithic men ; they are very liable to be attacked by caries. The front teeth, when the jaws are closed, do not meet edge to edge as in primitive races ; like the blades of scissors, they overlap, the lower passing behind the upper. In the Neolithic people all these modern characters are absent. Abscesses or gum-boils at the roots of the deeply ground teeth were, however, common; but there is not a single carious tooth to be seen in the Coldrum collection. The teeth are regular in their arrangement, the palates were well formed, but in actual size the teeth possess the same dimensions as those of modern English people. All these changes, which are appearing in the teeth and jaws of modern British people, arise, we suppose, from the soft nature of our modern diet. We believe that were modern men to resume a Neolithic diet their teeth and palates would again be moulded in the ancient manner."

The difference is, however, hardly capable of such easy solution. Rickets was probably a disease unknown among Neolithic infants, as is largely the case among native races to-day, notwithstanding frequent privations as regards food. Contrast the life of Neolithic men living under primitive conditions, rising with the sun and going to rest at sunset, and living in small communities scattered over wide areas, with that of the slum conditions under which so large a proportion of our population lives to day. It is not a question of food, but of the deprivation of fresh air, exercise and sunlight, which profoundly alters the metabolism of the child and produces aberration in the growth not only of the bones and teeth, but in probably every tissue of the body. Natural selection is not always beneficial in its action. Nature is ever mindful of the continuity of the race, and if the slum-dweller is essential for its continuity an individual capable of adapting himself to such conditions will undoubtedly be produced.

In judging of the presence of hypoplasia, it was found practically impossible to make accurate observations on the temporary teeth of infants of school age. Caries was so universal and extensive that it completely masked the hypoplasia. It was evident that a hypoplastic condition of the teeth was common in the temporary set, and was, in all propability, the chief factor in bringing about premature decay. For the purposes of statistics only the records of the permanent dentition have been taken, and in marking a case as one of hypoplasia, only the severer forms are admitted, and cases of slight pitting, chalky-looking patches in the enamel, and so on, have been excluded, although microscopically such teeth would be found markedly defective and liable to disintegration. Of the 586 rickety cases in which a record of the permanent teeth could be taken, 42 per cent. had normal teeth and 58 per cent. had defective teeth; 20 per cent. of these showed hypoplasia frequently combined with decay, and 38 per cent. had decayed teeth. This is not equivalent to saying that 42 per cent. of school children have normal teeth. As already pointed out, all infants with a record only of temporary teeth have been excluded, because these teeth were so universally decayed as to make accurate observations on the structure impossible. Again, most of the children with records of the permanent teeth were about the ages of 12 or 13 years, when all the permanent teeth have been erupted except the third molars, and caries has least time to make its appearance. It is a somewhat quaint commentary on the general state of the teeth of the community to have to explain why only 58 per cent. of the individuals are given as having defective teeth.

Of the cases with carious teeth, the lower first molar was decayed in 80 per cent., the upper first molar was decayed in 30 per cent., one or more lower premolars in 30 per cent., and one or more upper premolars in 12·5 per cent. The incisors, canines, and second molars were seldom decayed. The shape of the incisors and canines must protect them from many of the causes of decay to which the flattened grinding molars are subjected. The lower first molars decay out of all proportion to the others, and their earlier eruption is not a sufficient explanation of this. It is to be attributed rather to the main part of the enamel of the crown having been laid down in the first two years of life, when rickety conditions are operative. Naturally the lower teeth, which lie in the well of the mouth, will suffer more seriously from deleterious influences which surround the teeth.

Even though no macroscopic change indicative of hypoplasia is to be found in these teeth, in all probability their microscopic character is distinctly affected. One practical point may be noted. Frequently on looking into a child's mouth the two milk molars or the first permanent molar will be seen with blackened exposed dentine and the enamel on the surface of the crown removed. Closer examination will show that these are still effective teeth and that there is no pyorrhœa or gum irritation around them. The surface of the tooth can be freely touched with the spatula. The dentine of the tooth seems to have become consolidated, and usually, though the teeth do not look well, they can be safely left, the process of decay having become arrested. Frequently it is not a process of decay in the ordinary sense, for the thin defective enamel on the surface of the crowns of the grinding teeth can sometimes be seen breaking off in distinct flakes. Again, many of the conditions conducive to rickets are present in the parents of these children, and *a priori* it might be expected that this would frequently be a congenital defect. In such a case in a certain proportion of children the milk incisors should show hypoplastic changes. The enamel of the crown of the milk incisors begins to be laid down about the seventeenth week, half-way through intra-uterine life, and has progressed to a considerable extent at the time of birth. At birth, half the crowns of the incisors, the tips of the canines and the cusps of the molars are calcified in the temporary set, and by about six months after birth the calcification of the crowns is completed. Careful search for a hypoplastic condition of the milk incisors during a long period both in school children and in the babies who have attended the Hackney Mothers' Centre has failed to detect a case. It is strong presumptive evidence that rickets is not a congenital condition, and is another instance of the care that Nature takes that, whatever else suffers, the germ at least is protected during the intra-uterine life. If in achondroplasia the milk incisors showed signs of hypoplasia, this would be excellent evidence to link it up as a congenital form with rickets.

A later form of hypoplasia is every now and then seen in which the two premolars and the second molars are affected, whilst the incisors, canines and first molars are not affected. This latter form of hypoplasia must be due to influences acting on the child from the second to the sixth year. Association has been recognised between lamellar cataract and hypoplastic teeth. Mr. Norman Bennett collected twenty-two cases of lamellar cataract, all of which showed well-defined hypoplasia in the permanent teeth, and in thirteen cases there was a history of convulsions whilst teething.

TWO CASES OF SPLENECTOMY FOR BANTI'S DISEASE.

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Hon. Surgeon General Hospital, Wolverhampton.

In the 'British Medical Journal' of March the 11th, 1916, p. 365, was published an account, with commentary, of a case of splenectomy for splenic anæmia in a woman, aged 45 years, in Addenbrooke's Hospital, Cambridge. Below is an account of two cases in the General Hospital, Wolverhampton, in children aged 6 and 12 years.

Case 1.—A boy, aged 6 years, was seen by Dr. J. A. Codd on January the 12th, 1916. The history given was as follows: The boy had been ailing for about three years, being pale and languid; his appetite had been good, but he was getting thinner. He had had pain in the epigastric region at times, but there had been no vomiting or diarrhœa. No history of hæmorrhages could be obtained. He had had a good deal of cough. On amdission into hospital he was seen to be very pale, the skin had a lemon tint, and there was slight icteric tinge of the conjunctivæ. The spleen was very large, also the liver. There was considerable hæmaturia, although no history of it could be obtained. The temperature on admission was 102° F., but it fell to normal the next day, and did not rise above 99·4° F. during the whole of his stay in hospital, and was above normal on twelve days only. The sole medical treatment that he had was liq. arsenicalis ♏3, t.d.s., which was begun on January the 17th, and continued for a few days. I operated on January the 21st. The spleen, if at all different, was slightly smaller, but reached well beyond the edges of the rib cartilages. The abdomen was opened by a vertical incision above the umbilicus, and enlarged to the left by cutting transversely through the rectus just above the level of the umbilicus. A few adhesions were found, but were easily dealt with. The removal of the spleen gave no trouble, the pedicle being tied in two portions. There was hardly any bleeding. The wound was sutured in layers and a small tube drain left in for twenty-four hours. There was exceptionally little shock. The liver was much enlarged. The day after the operation there were well-marked evidences of improvement. There was a healthy pink colour in the lobes of the ears, the cheeks, lips, and conjunctivæ, the boy was very comfortable, and did not appear as if he had so recently gone through a severe operation. There was a slight amount of pyrexia for a few days, but the temperature became normal on the fifth day and remained so. Unfortunately no differential blood-count was taken, the number of red and white cells only being estimated.

January the 19th.—Two days before the operation, red cells, 1,850,000; white cells, 6500 per c.mm.

February the 7th.—Seventeen days after the operation, red cells, 2,700,000; white cells, 11,500.

He left the hospital on February the 14th. His blood was examined again on March the 9th, the result not being so good as on the last occasion. Red cells, 2,425,000; white cells, 15,600; hæmoglobin, 70 per cent. I saw him last on April the 27th; he was still rather pale and feeble, though not nearly so bad as before the operation. I have not been able to see him since.

Case 2.—A boy, aged 12 years, was admitted into the hospital on February the 10th, 1916. The history given was as follows: He had apparently been quite well, except for some slight paleness, until a week before admission, when he had a bad fright on the occasion of a Zeppelin raid in his district. He complained of pain in the back, abdomen, and head. There had been no vomiting or hæmorrhages; there had been some polyuria. He had diphtheria when two years old, and was said to have been anæmic ever since. The notes written on admission were: Patient has no pain but in his head, very anæmic, no icterus. Heart not enlarged, marked pulsation and systolic bruit at apex and over pulmonary area. Lungs normal. Abdomen: Spleen much enlarged, notch marked and somewhat nodular on surface. Temperature, 102·6° F. I saw the boy on February the 19th. His condition was about the same. The blood-count was: Red cells, 1,330,000; white cells, 5000; hæmoglobin, 35 per cent. The report added: "Film shows slight degeneration of red cells in shape and staining properties." I hesitated about operating on this case on account of his heart, but finally decided to risk it. The spleen was removed on March the 3rd. I used the same kind of incision as in the former case. There were rather more adhesions, but no difficulty was experienced in getting at them or removing the spleen, which in this case was much larger. It weighed $2\frac{3}{4}$ lb. The patient stood the operation very well in spite of his heart trouble, and his recovery was rapid. Very little blood was lost at the operation. There was more pyrexia in this case before the operation, the temperature ranging between 97° and 102·8° F., but practically none after. The improvement was not so marked immediately after as far as the naked eye was concerned.

February the 29th.—Three days before operation a blood-count was taken. Red cells, 1,600,000; white cells, 11,000.

March the 11th, a week after, the blood-count was: Red cells, 2,900,000; white cells, 10,000; hæmoglobin, 70 cent.

He left the hospital on March the 19th, and on April the 26th the blood was again examined, with the following result: Red cells, 2,800,000; white cells, 53,000; hæmoglobin, 60 per cent. Differential count: Polymorphonuclears, 40 per cent.; lymphocytes (including many in degenerated and transitional stages), 53 per cent.; eosinophils, 1 per cent.; large hyaline, 5 per cent.; mast-cells, 1 per cent. I saw him last on April the 27th, when he seemed to be much improved, but I have not been able to see him since.

The incision used in both cases may seem to be unnecessarily large, but that is more than counterbalanced by the ease with which deep adhesions can be reached and dealt with, and a large spleen delivered with the minimum amount of manipulation and pulling on the pedicle, both of which are, I am sure, the chief cause of shock in these operations. The increase in the length of the operation due to the making and suturing of a much more extensive wound is more than compensated for by the rapidity and ease with which the spleen can be removed and adhesions dealt with. If the rectus is sutured to its sheath by two parallel rows of stitches and divided between them, and the wound sewn up carefully in layers, there is not the slightest risk of subsequent hernia. The improvement in the first case was not nearly so good as in the second. This was due, I think, to the difference in age, the length of the previous ill-health, and the more feeble condition of the boy. I do not think that the history given in the second case can have been correct; the spleen, which reached nearly to the middle line, must have been obviously enlarged for some time. He had had some anæmia for some years before he was admitted, and no doubt the spleen had been enlarged but not noticed.

It is unfortunate that only one differential blood-count was taken, but there were many insuperable difficulties in the way. The only great difference in the blood-counts of the two cases is the number of white cells in the last examination of the second boy. It is early yet to form an opinion as to the future in these cases, but I feel very pessimistic about the younger one.

Note by Dr. Codd.

The first case presented the typical appearance of the lemon-yellow tint with slight icteric tinge of conjunctivæ. These symptoms, which always suggest pernicious anæmia in the adult, should always suggest Banti's disease in a child, and the first thing to do is to feel for the spleen, and the next to have a blood-count. Leukæmia does does not show in children this lemon tint in the early stages. The appearance is more like that of the "large white face" as seen in "large white kidney."

The second case did not show this lemon tint. The history given was very dogmatic. The relatives stated that immediately after the bombs were dropped by a Zeppelin close to his house he became ill and his abdomen began to enlarge, this enlargement being due to the growing spleen. Although he was familiarly called by us the "Zeppelin spleen" case, I am inclined to consider that the shock-causation theory should be received with caution unless it were substantiated by other well-marked cases.

In a former case of Banti's disease that was under my care I first treated him with X rays and arsenic without any definite benefit. I then transferred him for splenectomy, and after this he made apparently a complete recovery. This failure with X rays is in striking contrast to the markedly beneficial influence of X rays in lymphadenoma and leukæmia, and I should never treat another case of Banti's disease with X rays, but transfer him at once for splenectomy, which acts like a charm. The huge blood-destroying organ is removed and excessive hæmatolysis stops at once.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, May the 26th, 1916.

DR. E CAUTLEY, *Ex-President, in the Chair.*

Optic Neuritis (? Cerebral Tumour).—Dr. CAUTLEY.—A boy, aged 6 years 8 months, attended as an out-patient at the Belgrave Hospital for Children on April the 17th, under Dr. Prentice, who admitted him the following week with these notes:

"April the 10th: Headache for two weeks. Wakes up screaming at night. Anorexia, furred tongue, offensive breath, (?) vomiting, B.O.

"April the 17th: Not so well; headache, retching, drowsiness. Arm reflex greater on the left than right side; normal abdominal reflexes; knee-jerks equal and brisk. Gait unaffected. Optic discs swollen, and hæmorrhage on the left disc. He vomited during the afternoon but did not complain of headache."

Since being in hospital he had not suffered from headache or vomiting.

Mr. Bishop Harman's report on eyes (May the 9th): Bilateral papillitis, 1·5 D. elevation. Fine interstitial hæmorrhages at left disc, no exudation. No disorder of fixation."

There was no albuminuria. The gait was a little stiff.

Optic Neuritis (? Cerebral Tumour).—Dr. CAUTLEY also showed a girl, aged 11 years, admitted to Belgrave Hospital on April the 27th. One month before she had had two fits. Since then she had had almost constant headache and vomiting, the result of the headaches. On April the 26th she had another fit. She was a strong, high-coloured, healthy-looking girl. Her abdominal reflexes were practically absent; deep reflexes depressed, the left rather more marked than right; plantar reflexes absent. Her head was tilted somewhat towards the right shoulder, which was a little raised. Gait somewhat unsteady, (?) cerebellar, and she tended to fall backwards and to the left. Her left side was a little weaker than the right and showed slight inco-ordination, probably sensory; and for the same reason the left movements were clumsy. The eyes showed nystagmoid movements, lateral and rotatory, and slight left convergent squint. Perhaps there was a little weakness of the left facial nerve, and there was double optic neuritis.

Mr. Bishop Harman's report (May the 9th): "Nystagmus on extreme duction, tendency to left convergent squint; well-marked papillitis in each eye, about 2 D. elevation, a trifle more on right side; no hæmorrhages or exudation; slight silkiness of right macular region."

Since being in hospital no special symptoms had been noted and she had not suffered from headache or vomiting.

Infantilism.—Dr. CAUTLEY.—Boy, aged 6 years 8 months, sixth child. He was said to have been a puny babe, but to have grown up to 3 months of age. At the age of 9 months he only weighed 4½ lb., and from 13 to 18 months of age he remained stationary at 6 lb. 1 oz. He was entirely breast-fed for one and a half years and partially so for another six months. Proprietary foods were given up to the age of 4½ years, and since then he had had ordinary diet. His mother suckled her previous baby for eighteen months, up to her confinement with this child. During the first year of life he was remarkably somnolent, and at the age of 3 years he had diphtheria. At times he was troubled with constipation, and occasionally with cramps in the hands and feet. He had had no such troubles during the two months he had been under observation.

Condition on May the 18*th*.—Height, 26½ in.; weight, 16 lb. 14 oz.; head, 17 in. He was pot-bellied, markedly rachitic, and the liver had dropped well below the costal margin. There were enlarged tonsils, adenoids, and moderate adenitis. The skin was elastic and complexion rather dull. He spoke fairly clearly, and mentally appeared about 4 to 5 years of age. He had twenty good teeth, the first having been cut at the age of 2 years. His appetite is poor.

On April the 22nd he developed pertussis. This induced convulsions, once on April the 24th and four times on April the 25th, and was followed by general bronchitis. On admission on March the 25th he weighed 15 lb. 12 oz., and on April the 20th he had gained 28 oz. Since then the pertussis and bronchitis had caused loss of weight. The Wassermann reaction was negative.

There appeared to be no special cause for his backward development, beyond malnutrition and unsuitable feeding during early life. He had been taking polyglandin and improved, but the improvement might have been due to food and nursing.

Giantism.—Dr. W. MITCHELL SMITH.—Girl, aged 12 years 9 months.

Family history.—Patient was the seventh of ten pregnancies; two miscarriages; five died at or soon after birth; three living and well; brother, aged 20 years, height 5 ft. 9½ in., weight 16 st.; a brother, aged 11 years, normal; and present case. Father suffered from diabetes; once 17 st., now 14 st. Mother healthy. Maternal grandmother reputed to be 32 st. at time of her death.

Present condition.—Height, 5 ft. 4⅛ in.; weight, 17 st. 7 lb. Very obese, with equal distribution of fat; large framework, especially across the hips. Pubic hirsuties. Menstruating regularly since last Christmas. Blood-pressure 125 mm. Hg.; urine normal; optic discs normal. Mentality normal for girl of her age (Standard VII); excellent memory, placid disposition, gross eater.

Skiagram of sella turcica showed that—(1) it was very well developed for a girl of her age; (2) there was no erosion of anterior or posterior part to indicate a tumour of any size.

Juvenile General Paralysis.—Dr. J. WALTER CARR.—Boy, aged 8 years. There was nothing in the family history to suggest syphilis, and the patient did not present any of the stigmata of the disease. He had not had any previous illness of importance. For about six months his walk had been getting increasingly jerky, and he had sometimes fallen down. For the last three months his pupils had been noticed to be unequal. Recently his speech had been getting indistinct and mumbling, Formerly he was rather bright at school, but of late had ceased to make any progress; had been unable to write, and had lost his memory. He had not had any convulsions. He was a healthy-looking, rather stout boy. He showed marked mental impairment, with distinct delusions of exaltation—for instance, he talked of having knocked down a policeman and killed two Germans. He had incontinence of urine and often of fæces also. The left pupil was larger than the right and reacted very sluggishly to light; the right pupil reacted normally. The left optic disk was very considerably paler than the right. He had a distinctly spastic gait, with double ankle clonus and exaggerated knee-jerks. The triceps and supinator jerks were also increased. It was not possible to be sure whether the plantar reflexes were flexor or extensor. There was no ataxy. Wassermann reaction of blood positive.

Hemi-hypertrophy — partly Crossed. — Dr. A. S. BLUNDELL BANKART.—Boy, aged 6 years. Asymmetry of face and limbs was noticed soon after birth. The condition had remained stationary, except in so far as the child had grown. The right side of the face, right half of tongue, right thigh, and right leg, were decidedly larger than the corresponding parts on the left side. The left forearm was decidedly, and the left arm was slightly larger than the right forearm and arm respectively. Skiagrams of the forearms and legs showed that the bones on the enlarged side were slightly thicker than those of the smaller side (?). There was no increase in length. The left testicle was slightly larger than the right.

Double Optic Neuritis.—Dr. C. O. HAWTHORNE.—Boy, aged 9 years, the subject of double optic neuritis of moderate degree, without other evidence of intracranial or nervous disease, or of disease in the thoracic or abdominal viscera. Some degree of anæmia, but by no means extreme, and Wassermann reaction negative. Had been under observation in hospital for fourteen days, and except for some headache on first day had seemed quite well and happy. Acuity of vision $\frac{6}{5}$ each eye. The history was of occasional attacks of headache commencing eight months ago, sometimes very severe, and in recent weeks often accompanied by vomiting. No admitted violence to the skull or of illness other than the above. There was a history of "consumption" in the mother's family and of "fits" in that of the father; a sister had a "tubercular knee."

Ulceration of the Soft Palate.—Mr. E. D. D. Davis.—A girl, aged 13 years, was sent to Charing Cross Hospital by Dr. J. D. Rolleston with the history that she had been admitted to the Grove Hospital for diphtheria on April the 14th. One week before admission to the Grove Hospital she complained of sore throat but was otherwise quite well. Cultures of the fauces showed no diphtheria bacilli and direct smears showed no Vincent's organisms.

When seen by Mr. Davis on May the 19th there was a large irregular ulcer involving the left half of the uvula, soft palate, and left pillar of the fauces, with considerable loss of the left half of the palate. The ulceration was atypical of lupus, tubercle, or syphilis, but Wassermann's reaction was positive. There was no other lesion of the nose, pharynx, larynx, or ear.

Postscript, July the 1*st.*—The ulceration healedwith mercury and potassium iodide, and an injection of novo-arseno-benzol (3·75 mg.). A definite history of infection of both parents was obtained.

Lupus of the Hard Palate and Gums.—Mr. E. D. D. Davis showed the case for comparison with the above. The lupus was of some months' duration and of unusual distribution.

Recurrent Jaundice.—Dr. Cautley (for Dr. P. Hamill) showed a girl, aged 13 years, who had been under observation since November, 1914, suffering from recurrent attacks of jaundice. From then up to the present time she had not been entirely free from pigmentation. During the exacerbations bile was present in the urine, the fæces were clay-coloured, and the liver was enlarged. In the intervals her general health was good. Since January, 1916, the spleen had begun to enlarge, and had extended more than 1 in. below the costal margin. During an exacerbation the blood-count was found to be: Red blood cells, 3·78 million; white blood cells, 10,800 per cubic mm.; hæmoglobin, 70 per cent.; colour index, 0·9 per cent. Differential count: Polymorphonuclears, 52 per cent., total number 5620; lymphocytes, 45 per cent., total number 4860; eosinophiles, 1 per cent., total number 100; basophiles, 2 per cent., total number 220. Very slight anisocytosis and poikilocytosis, no nucleated red cells seen. Corpuscular fragility normal. Loewi's pancreatic reaction was negative.

Unilateral Enlargement of the Tongue.—Dr. Cautley (for Dr. P. Hamill)—A girl, aged 5 years, was brought to hospital with unilateral enlargement of the tongue. It was with difficulty that the tongue could be retained in the mouth. The enlargement appeared to affect the right side only, and involved the floor of the mouth. The papillæ were enlarged but did not resemble the minute vesicles commonly seen in cases of lymphangiectasis. Skiagrams did not reveal any corresponding hemi-hypertrophy of the cranial bones.

Congenital Defect of the Left Ulna.—Mr. Paul Bernard Roth showed a girl, aged 9 years. The case was described in the *Lancet*, May the 23rd, 1914.

The Rational Treatment of Rickets, with Illustrative Case.—Dr. Eric Pritchard.—(*Vide* p. 295).

The Teeth in Rickets.—Dr. J. Lawson Dick.—(*Vide* p. 332).

Abstracts from Current Literature.

Tuberculosis.

The period of life at which tuberculous infection most frequently occurs (*'Med Record,'* 1915, LXXXIX, *p.* 47).—**S. A. Knopf,** as the result of inquiries addressed to well-known specialists on tuberculosis, internists and pædiatrists, comes to the following conclusions: Tuberculous disease in childhood is comparatively rare compared with tuberculous infection, which is exceedingly common. Most cases of tuberculosis in the adult have their origin in an infection during infancy or childhood. The frequency of infection increases with the age of the child, and is also affected by the environment. Under one year the percentage ranges from 1 to 9, from the first to the third year from 9 to 50, from the third to the fifth year from 27 to 75, from the sixth to the tenth year from 34 to 75, and from the eleventh to the fifteenth year from 12 to 94. Primary infection is most frequently found in the lungs and lymph nodules. Prenatal infection is perhaps more frequent than statistics show. The age at which a tuberculous infection contracted in infancy or childhood becomes active is according to the majority of Knopf's correspondents at or shortly after 15 years, next between 18 and 30 years. J. D. ROLLESTON.

Frequency of infection with tubercle bacillus in childhood (*'Am. Journ. Dis. Child.,'* 1915, IX, *p.* 478).—**B. S. Veeder** and **M. R. Johnston.**—A study of tuberculin tests in 1321 cases at St. Louis Children's Hospital showed that the percentage of positive reactions reached a maximum of 44 per cent. at the age period of 10–14 years, including cases with clinical tuberculosis. If the latter were excluded, the percentage with positive reactions at the 10–14 age period was only 36. These figures are much lower than the 90 per cent. figure for the incidence of infection in children by their fourteenth year which is based on the figures of Hamburger for Vienna. The intradermic test gave only a slight increase in the percentage of positive reactions over the percentage of positive cutaneous reactions.

J. D. ROLLESTON.

The problem of tuberculous infection in children (*'Boston Med. and Surg. Journ.,'* 1916, CLXXIV, *p.* 755).—**H. W. Dana.**—A large proportion of all children are infected with tuberculosis in childhood, and from this early infection most of the active tuberculosis of later life is believed to spring. In the examination of 801 school children, 40 per cent. of whom were examined more than once, 12·1 per cent. were found to have probable tuberculous infection. It is impossible, in most cases, to determine whether the process shown by the X ray is active or not. J. D. ROLLESTON.

What constitutes tuberculosis in childhood? (*'Boston Med. and Surg. Journ.,'* 1915, CLXXIII, *p.* 654).—**J. L. Morse** distinguishes between tuberculous infection when the disease is not present and tuberculous disease. In the former case children react positively to von Pirquet's test, but this only denotes infection, not disease. D'Espine's sign shows that there is probably enlargement of the tracheo-bronchial glands but not that they are necessarily tuberculous. Enlarged glands do not mean they are diseased unless fever, malaise and debility are present. When a positive D'Espine is associated with a positive von Pirquet test, the chances are that the enlarged tracheo-bronchial glands are tuberculous, especially if the sign persists. If D'Espine's sign is positive and von Pirquet's test negative, the condition is certainly not tuberculosis. The significance of an X-ray plate is the same as D'Espine's sign. A definite history of exposure to tuberculosis is in favour of this disease if signs of debility, etc., be present.

F. R. B. Atkinson.

A clinical study of 228 children in relation to tuberculous exposure controlled by von Pirquet reaction (*'Am. Journ. Dis. Child.,'* 1915, x, *p.* 354).—**J. B. Manning** and **H. J. Knott**, contrary to the findings of Fishberg (*vide* British Journal of Children's Diseases, 1914, xi, *p.* 419, and 1915, xii, *p.* 345), found that children living in a tuberculous milieu and those with no known contact with consumptives showed marked differences; the former reacting in a relation of two to one of the latter. The number of positive reactions in the entire series was 42·9 per cent. The number of children between 10 and 15 with positive reactions in a series in which the majority came from tuberculous homes was 58·1 per cent., far below the figures of Hamburger, 95 per cent., and von Pirquet, 93 per cent. The writers attribute these discrepancies to peculiarities of climate, housing and sanitation in different communities. J. D. Rolleston.

On the prognostic significance of a positive von Pirquet's reaction in children from 0 to 2 years of age (*'Hospitalstidende,'* 1916, lix, *p.* 697).—**G. E. Permin.**—A positive reaction at this age without any other symptoms is by no means so grave a prognostic as is usually supposed (*vide* British Journal of Children's Diseases, 1913, x, *p.* 548). It has most significance in the first year of life, much less in the second. Of 15 children with a positive reaction in the first year of life, 6 died between the first and fifth year, while of 31 with a positive reaction in the second year only 2 died, between the second and third year. Many children who have been exposed at home to severe and fatal phthisis remain in good health after a long period of observation. J. D. Rolleston.

Oral tuberculosis (*'Annals of Otology,'* 1915, xxiv, *p.* 193).—**T. E. Carmody** reports seventeen cases in full, and abstracts in tabular form 534 cases, with 661 lesions, distributed as follows: Tonsil 48, pharynx 51, palate 97, upper jaw 48, lower jaw 36, cheeks 16, tongue 277, lips 48, location not specified 40. The paper, which is profusely illustrated with colour and other plates, forms a useful *résumé* of its subject and requires to be read in its entirety Macleod Yearsley.

Digestive troubles in tuberculous children (*'Arch. de Méd. des Enf.,'* 1916, xix, *p.* 29).—**L. Jeanneret** divides them into: (*a*) Slight: the complexion is bad, the tongue furred, the appetite irregular and capricious, and there is a desire for spiced and acid foods. (*b*) Moderate: stomachic symptoms, heaviness after food, pain one to two hours after food, sometimes vomiting. (*c*) Advanced: intestinal symptoms, ending in all the signs of chronic enteritis. Out of 110 cases examined, 35 per cent. showed anachlorhydria. Treatment: (1) Avoid alkalies; (2) diminish foods requiring gastric juice for their digestion; (3) give pepsin and HCl; (4) treat the enteritis secondarily; (5) treat the tuberculosis.

F. R. B. Atkinson.

On curable tuberculosis of the nervous centres (*'Riv. di Clin. Pediat.,'* 1916, xiv, *p.* 181).—**G. Fiore** having published in 1911 a case of cerebral tuberculosis which resulted in cure (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 279) and in 1913 an article on tubercle of the nervous centres shown anatomically to be curable (*Ibid.*, 1913, x, *p.* 552), came to the conclusion that the axiom of the incurability of meningeal tubercle could no longer be maintained in an absolute manner. He now publishes another case of tuberculous meningitis in which recovery was complete. A child, aged 8 years, who had convulsions when 1 month old, whooping-cough at the age of 5 years, and scarlet fever at 6 years, was admitted to hospital with marked signs of lymphatism and tracheo-bronchial adenitis, von Pirquet's reaction being strongly positive. At the same time there was broncho-pneumonia which cleared up leaving only a patch of harsh breathing at the apex of the right lung. Shortly afterwards there occurred vomiting, headache, drowsiness, irregular fever, increased reflexes, persistent dermographia and marked cranial tympanicity on percussion. Lumbar puncture gave abundant clear fluid under pressure, with lymphocytosis and albumin, which produced tuberculosis in a guinea-pig. The patient continued in the same state for more than a month and then began to improve, regaining consciousness. The residual signs of the apical broncho-pneumonia disappeared. Lumbar puncture was practised eight times, the pressure diminishing *pari passu* with the amount of morphological elements and albumin. After five to six months recovery was complete.

Vincent Dickinson.

A study of 105 cases of tuberculous meningitis (*'Am. Journ. Dis. Child.,'* 1915, ix, *p.* 426).—**A. E. Meyers** analyses the cases admitted to the Boston Children's Hospital since 1910. Fifty-two were males, 53 females, the youngest was 5 months, the oldest 11 years. Measles was noted in the past history in 26 per cent., whooping-cough in 22 per cent., and pneumonia in 11 per cent. The largest percentage occurred during January, April, and July, and the lowest in September, October and November. The average duration of the disease was 17 days, the shortest 5 days, and the longest 43 days. Lumbar puncture was done in all cases once in every forty-eight hours, and 20 to 30 c.c. removed. In 80 per cent. the fluid was under pressure, in 11 per cent. the tension was normal, and in 9 per cent. it was not recorded. Tubercle bacilli were found in the centrifugalised clot in 21·5 per cent. The average count was 198 cells to the cubic mm. The prevailing type of cell was the small mononuclear, in only three cases was the polymorph the prevailing type. A positive test for globulin was found in 50 per cent., in 7 per cent. it was negative, and it 43 per cent. it was not recorded; 63 per cent. showed a positive von Pirquet's reaction, and 25 per cent. a negative reaction. Frequently when the first or second test was negative, the third proved positive. In over 35 per cent. of the positive cases the patients were unconscious on admission. There was a definite history of exposure to tuberculosis in 25 per cent., and no known exposure in 73 per cent. Treatment consisted in large doses of hexamethylenamine and sodium benzoate, and inunctions of mercury. In no case was there any recovery or remission. The paper contains an analysis of the symptoms and signs presented by the 105 cases, and a list of the necropsy findings.

J. D. Rolleston.

Acute general tuberculosis, with left oculo-motor paralysis after measles (*'Dub. Journ. Med. Science,'* 1916, i, *p.* 174).—**J. Moore** records this case in a girl, aged 4½ years, who had always been healthy until she contracted measles about nine weeks before admission to hospital. On the day before admission complete ptosis of the left eyelid developed suddenly and slight slurring of the speech had been noticed. The evening temperature registered 102° F. On admission the axillary temperature was only 96° F., the pulse-rate was 86, and the respirations were 28 per minute. The child was quite conscious and very intelligent. She answered questions more by gestures than by speech. Her tongue was thickly coated. The most striking signs of illness were in connection with the left eye. There was complete paralysis of the left third nerve. Absolute ptosis, with dilatation of the left pupil, inability to turn the eye inwards or upwards, slight external strabismus, and loss of power of accommodation and of contraction on exposure to light. The fourth and sixth nerves seemed to be unimpaired in power and function. Examination of the left fundus showed that the disc was somewhat pale; no congestion detected; isolated patches of choroiditis noted; choroid very thin, as was also the case on the right side. The child died eleven days after admission, and the post-mortem findings were as follows: Disseminated tuberculosis of both lungs and also of the mediastinal and peribronchial glands. Very profuse tuberculosis of the pericardium, diaphragm, liver, kidneys, spleen and peritoneum. Extensive tubercular basal meningitis. No involvement of the nucleus or the intracranial course of either third nerve was observed on hardening and examining sections. J. Allan.

Disseminated miliary tuberculosis (*'Arch. of Ped.,'* 1915, xxxii, *p.* 887).—**W. P. Northrup.**—The patient was an infant, aged 15 months, whose mother and brother were tuberculous. The disease began at 9 months with wasting and cough. The physical signs in the chest were indefinite and no tubercle bacilli were found in the sputum or fæces, but the X rays showed the presence of miliary tubercles. The skin of the trunk, especially the back, face and forearm, showed papulo-pustular umbilicated lesions (necrotic tuberculides). Some pea-sized nodules were found in the subcutaneous tissue in the left forearm, in the arm and in each calf. One nodule was removed and proved to be tuberculous. The autopsy showed widespread miliary tuberculosis in the lung and bronchial glands, tuberculous ulcers in the intestines, and tuberculous meningitis. J. D. Rolleston.

Rapidly advancing pulmonary tuberculosis (*'Arch. of Ped.,'* 1915, xxxii, *p.* 735).—**Fairfax Hall.**—In the normal lung the X ray exposes branchings from the hilus, representing bronchi, vessels, and glands. In the tuberculous lung there is enlargement and diffusion of these shadows representing enlarged peribronchial glands. Miliary tubercles cast small spotted shadows, larger areas, more diffuse shadows, and cavities are seen as light areas in the midst of consolidated lung. A case of a girl, aged 2 years, in whom pneumonia and otorrhœa preceded febrile disturbance and cough, is described. At first only moist *râles* were heard at the bases, but shadows of enlarged glands were shown at both roots, and the von Pirquet test was strongly positive. Gradual extension of the X-ray shadows was noted on the forty-fourth day of the illness. Signs of a cavity at the right base were detected by the radiologist, and infiltration of the lung by the clinician. Ten days later there was marked dulness at the right base with bronchial breathing below the angle of the scapula. The von Pirquet reaction was now much less marked. Loss of weight was now first noted.

On the sixtieth day of the disease tubercle bacilli were noted in the sputum and fæces. On the sixty-fifth day death supervened. Miliary tubercles were found in both lungs, with cavities, smal lin the left but large in the right, in both lower lobes. By the X rays the early diagnosis of the disease was ensured. CHRISTOPHER ROLLESTON.

Ulcerative pulmonary tuberculosis in infants (*'Le Progrès Méd.,'* 1916, *p.* 34).—**E. Aine** makes this the subject of his *Thèse de Paris.* It is not exceptional, he says, to meet with more or less extensive ulcerative lesions of the lungs at autopsies of infants dead of tuberculosis, analogous to those which characterise the usual evolution of pulmonary tubercle in the adult. Anatomically they occur in four different forms: (1) The simple vomica, usually single and apparently representing the primary nodule of infection. It is seen most often in very young infants, from 3 to 6 months, and has a scanty symptomatology usually extra-pulmonary. (2) In the majority of cases the vomica is hollowed out in the middle of a patch of caseous pneumonia whose clinical evolution is usually subacute. It is usually large and multilocular. (3) The formation of vomicæ by caseous broncho-pneumonia is a variant of the above process, differing from it in the fact that the vomicæ are small and multiple; its evolution is generally more rapid. (4) When in either of the preceding types there is marked fibrous reaction, disseminated vomicæ are found occupying one lobe or even an entire lung, in the midst of dense fibrous tissue with dilated bronchi. Clinically these forms give rise to few symptoms, physical signs are inconstant and late, dulness persistent at the apex being alone excepted they are fallacious. Functional signs have greater value, especially hæmoptysis, which, however, is rare. Radiography is of special help. In conformity with current opinion, the author does not consider a congenital origin of these lesions frequent and has been unable to find any undoubted case of contagion *in utero.* The surroundings of the patients favoured the explanation of contagion by inhalation. From the social point of view, the types of pulmonary tuberculosis studied by Aine have a special interest from their relative frequence and their gravity. It is important to bear in mind that the infants attacked are the agents of infection, as proved by examination of their sputum. For this reason all infants who cough should be subjected to frequent and systematic examination even in the absence of an intradermal or cuti-reaction. VINCENT DICKINSON.

Lymphogranuloma malignum (*'La Pediatria,'* 1915, XXIII, *p.* 481).—**G. Caroina** describes two cases of this disease (Hodgkin-Sternberg). In both typical forms of Much's granules were found but no tubercle bacilli. In the first case an intraperitoneal injection in a guinea-pig was made. An autopsy after three months showed tuberculosis of the peritoneum and abdominal glands with acute secondary miliary infection in the liver, spleen and lungs. In smears from the grey granulations in the latter, tubercle bacilli of granular form were found. From another guinea-pig, inoculated with the splenic pulp of the first animal, a bacillus resembling the human tubercle bacillus was cultivated. VINCENT DICKINSON.

Treatment of tuberculous sinuses (*'Glasg. Med. Journ.,'* 1916, I, *p.* 107).—**C. Bennett** recommends packing tuberculous sinuses with gauze soaked in a solution containing 5 gr. of menthol in a drachm of methylated spirit. After application the dressing need not be changed for three days.

No undesirable local or general after-effects have been noticed. The local anæsthetic action prevents post-operative pain, the granulations of the sinuses remain of a healthy type, discharge is rapidly reduced to a minimum, and the period of healing is noticeably shortened. J. ALLAN.

Reviews.

TRAUMATIC PNEUMONIA AND TRAUMATIC TUBERCULOSIS. By F. PARKES WEBER, M.D., F.R.C.P.Lond. Reprinted, with additions, from articles in 'The Clinical Journal,' London, July, 1916. Pp. 63, 7¼ × 4¼. London: Adlard & Son. Price 6d.

DR. PARKES WEBER has performed a very useful piece of work in bringing together, round a nucleus of his own observations, many of the references in medical literature to the subject of his reprinted papers. Traumatic or contusional pneumonia, and traumatic tuberculosis, are of particular interest in connection with the difficult subject of compensation for accidents and accidents in general. Both are diseases of adults far more than of the very young, although the author quotes a number of examples of each in children. The term "contusional pneumonia" was introduced by Litten in 1881, though the relation of pneumonia to injuries of the chest had been noted long before by Morgagni; the pneumonia may follow the injury at an interval of from two, four, six, or ten hours to many days, perhaps even a fortnight. As regards traumatic tuberculosis, meaning thereby cases due to injuries by which tubercle bacilli could not have been introduced from without, Dr. Parkes Weber divides the cases into three clinical groups. First he places those in which a decided traumatism of some kind is followed by acute generalised miliary tuberculosis with death in perhaps a month, or by acute localised metastatic tuberculosis in some uninjured part of the body; such cases may follow operations or manipulations of tuberculous joints, for example. Second he counts cases in which signs of pulmonary tuberculosis follow, or are first noticed, after a supposed injury to the lungs; such instances perhaps explain how it is that athletes so often succumb unexpectedly to phthisis. Third, he discusses instances in which injury to bones, joints, or parts of the body other than the lungs, is followed by signs of tuberculosis more or less localised to the region of the trauma. Generally this is to be regarded as the result of the disturbance of an unrecognised tuberculous focus already in existence but latent or quiescent. Dr. Parkes Weber's well-documented paper will be read with interest by all who are interested in the important subjects with which it deals. A. J. J.-B.

ANATOMIÁ DE LOS CONDUCTOS BILIARES Y DE LA ARTERIA CÍSTICA. By DR. P. BELOU, Titular Professor of Descriptive Anatomy at the Buenos Aires Faculty of Medical Sciences. 11½ in. × 8 in. Pp. 302, with 102 figures and 22 plates, many of them in colours. Buenos Aires: Oceana Press, 1915.

IN this handsome and well printed monograph Professor Belou remarks that our knowledge of the extrahepatic bile-ducts has advanced very considerably during the last thirty years, in consequence of the progress made by operative surgery. His own work is based on the dissection of scores of adults, infants, and lower animals. More than two-thirds of the book consist of elaborate descriptions and statistical figures relating to the cystic and hepatic ducts; the author distinguishes five segments of the hepatic duct, namely the initial, the epiploic, the retroduodenal, the retropancreatic, and the parietal or parietoduodenal. Then follow short chapters on the blood supply and anatomical anomalies of the bile-ducts, and on the general characters and disposition of the bile-ducts in the lower animals. There are thirty pages, with thirty figures, on the anatomy of the cystic artery, a subject to which Gray's *Anatomy* devotes four lines. The volume ends with a bibliography containing over 250 references to the literature; the author appears not to be acquainted with Dr. H. D. Rolleston's invaluable volume on the liver, gall-bladder, and bile-ducts. Professor Belou's monograph is a book for anatomists in the first instance; it also contains, scattered throughout its pages, a deal of information that should be of service to the surgeon or to the pathologist. But the volume has no general index, alas! and so it is unlikely that the stores of information it contains will ever be unlocked in this country. A special word of praise may be given to the water-colour sketches and pencil drawings of Professor Belou's artist, Mr. A. Bouvet. A. J. J.-B.

A CODE OF RULES FOR THE PREVENTION OF INFECTIOUS DISEASES IN SCHOOLS. Issued by the Medical Officers of Schools Association. Seventh edition. London: J. & A. Churchill, 1915. Price 1s. net.

THIS useful pamphlet begins with an introduction on general hygiene, but here several precautions are omitted. No instructions are issued on the proper care of earth closets, and no details are given as to the adequate protection of well water. The milk and food supply receive but scanty attention from public school authorities, and the same may be said of the dairy. Few, if any, schools have a dairy of their own. No instructions are given concerning the examinations of dairy employees, cooks, and other domestic servants; but surely in these expensive establishments serological and other tests should be provided to prevent infection by Eberth's bacillus, the tubercle bacillus, and the spirochæte of Schaudinn. With regard to the actual rules of isolation considerable alteration has been made since the last edition. Two negative swabs are considered sufficient in diphtheria, but nasal as well as oral cultures are advised. In scarlet fever it is pleasing to note that no importance is attached to desquamation. Very pertinent remarks are made on the importance of microscopical examination of ringworm. A most useful appendix on disinfecting and disinfectants is contributed by Dr. Houston. C. R.

HANDBOOK FOR WIVES AND MOTHERS IN INDIA. By MILDRED E. STALEY. London: W. Thatcher & Co. Price 5s. net.

THE 'Handbook for Wives and Mothers in India,' by Dr. Mildred E. Staley, has reached a second edition. It is written by one who combines a sound knowledge of medicine and hygiene with a full understanding of the special circumstances of life in India. We can especially commend the part of the book which deals with the management of infants and children in health and disease. The author has clearly studied closely the most recent publications on the subject, and of these she has made a very judicious use. On p. 242 the statement is made—and we doubt its truth—that if citrated whole milk is used in feeding, "the infant will need *only half the amount of plain milk* to that usually given in each feed of diluted milk." The italics are the author's. H. C. C.

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Original Articles.

HEART DISEASE AMONG ELEMENTARY SCHOOL CHILDREN.

By JOHN PRIESTLEY, M.R.C.S.,
Senior School Medical Inspector, Staffordshire Education Committee.

THE clinical picture of heart disease as seen in children who are well enough to attend school cannot fail to be of interest to the readers of this JOURNAL, differing as it does somewhat from the picture of cases seen in hospital. The latter picture forms the basis of all the text-book accounts of heart disease, which are a sort of composite photographs of innumerable more or less similar cases which have come under the observation of many different hospital physicians.

But the hospital cases nearly all have this in common, that the little patient was driven to the doctor by some discomfort or other, and in the very nature of the case was too poorly to be attending school at the time. Now that we have similar composite photographs derived from children well enough to attend school, and in a majority of instances totally unaware that they had anything wrong with their hearts, we shall be able to make some necessary adjustments in the final grand conception of heart disease in childhood.

The study of heart affections in school children is beset with difficulties. Take the case of diagnosis. A patient with heart disease in ordinary life seeks medical advice because of some discomfort—

breathlessness, or dropsy, or indigestion. When certain abnormal signs are detected in the heart there is usually no difficulty in connecting them with the discomfort by well-established lines of argument. The discomfort confirms one's impression of the true nature of the heart signs very much as a post-mortem examination does, though of course with less certainty.

The case is quite otherwise in school practice. In many cases there are no discomforts whatever; in others they are trivial or ambiguous. Therefore, diagnosis must depend entirely upon symptomatology, and the most experienced doctor must expect to have a fall sometimes.

We have to start with a clear idea of what is "normal" in symptomatology and then systematically challenge every deviation. Let us confine attention to endocardiac events. Exocardiac disease is very rarely seen or recognised in school work, and the occasional murmurs of exocardial origin, such as the cardio-pulmonary and the murmurs generated by firm pressure of the stethoscope, are merely curiosities. The "normal" consists of (1) the placid "lub-dupp," heard, so to say, from the middle distance, neither just under the stethoscope nor feebly a long way off; (2) the absence of hurry or irregularity of rhythm; (3) the light touch and go of the apex beat under the extended hand, felt at or within, or at any rate not markedly outside, the left nipple line; this position of the apex beat should be verified by the test of percussion, for the apex beat is sometimes at the normal spot, when percussion reveals a margin of dulness beyond it.

These, then, in school work are the signs of a healthy, uninjured heart. Deviations from the normal take the well-known forms of murmurs, bruits, reduplications or accentuations of sounds; palpable thrills, heaving, pushing, slapping, or rapping modes of impulse; rhythm too quick or too slow, or irregular in time or force; heart sounds too faint or too loud; unusual position of apex beat, and increase or alteration of cardiac dulness.

When children are taken without selection at the routine inspections and inspectors are giving particular attention to the heart, deviations from the normal, trivial or otherwise, may be detected in as many as 40 per cent. of all cases, and I daresay even this large figure is not exhaustive. But no inspector troubles to make notes of all such signs on every occasion, though he may observe them. He will note all he thinks important, and some, but not all, of those he feels sure have no important meaning for the child's health. It will therefore be of interest to point out the number of cases which a staff of inspectors experienced at the work, but not making a special research into minor heart symptoms, thought worthy of note. For four years we had a staff of inspectors, all of whom had had prolonged experience in general practice or in residential hospital posts before they came to us. Working over large groups of children numbering approximately 20,000 annually, the percentages of cases noted by all the inspectors together as having some heart affection were 6·2, 5·97, 7·17, 7·15 in the four successive years. This may be taken to represent the proportion of cases of heart affection which no one would deny to be worthy of note, out of the 40 per cent. of cases trivial or otherwise which we know to exist.

As to many of these abnormal heart signs or sounds, we have the vaguest notion how in detail they are produced. Who could give a satisfactory explanation of all cases of "thruppiness" or reduplication of the apex first sound? How is it that the heart "pushes" in one case, "slaps" in a second, and "raps" in a third? But there are other cases in which the signs and sounds so exactly resemble certain old acquaintances of the hospital ward which have been verified again and again at post-mortem examinations, that we feel no difficulty in looking on them as the same. On such evidence we attempt to divide the totality of abnormal signs into the *organic*, those which are due to some gross and permanent lesion, and the *functional*, those which arise in a substantially sound heart, or in one at least only temporarily defective.

That this effort at classification, especially in the circumstances of school inspection, is a precarious matter it would be vain to deny. It is not unlike the task of sifting the genuine cases of incipient pulmonary phthisis from the numerous cases of emaciated children with cough, catarrh, localised dull patches in the chest, chains of palpable neck glands, feverishness, and occasional night sweats, which nevertheless do not at any time give a positive von Pirquet reaction, and which by and by may clear up entirely, or in other cases remain the same for years.

A. ORGANIC CASES.—During the years 1912–13–14 Dr. Lila S. Greig, one of my colleagues on the school medical inspecting staff in Staffordshire, subjected the records of all cases of heart affection which had been noted at the routine inspections of 1908–9–10–11 to a careful examination. As we did not begin to revise old cases until 1912 the records scrutinised were mainly the original medical notes of a single examination.

Out of 70,138 routine children, boys and girls in equal proportions, and of the ages 5–6, 8–9, 12–13, 13–14, 674 had signs of organic valvular disease, 48 being considered to have congenital disease, and 626 acquired. In other words, the total amount of genuine organic valvular disease among Staffordshire school children would seem to be about 0·96 per cent.

Analysing a group of 676* apparently genuine organic cases we get the following proportions of murmurs:

	Cases.	Percentage.
Mitral regurgitant	562	83·1
Mitral stenotic	27	4·0
Mitral regurgitant and stenotic	49	7·3
Tricuspid	5	0·7
Pulmonary	26	3·9
Aortic	7	1·0
	676	100·0

This proportion of the various murmurs agrees in general with that found in hospital practice; mitral regurgitant murmur is by far the most frequently found. Fortunately for the general accuracy of school statistics it is the least ambiguous of the murmurs. Taking all mitral valve murmurs together the preponderance is very large indeed.

One of the most surprising things in school medical work is the number of children with organic heart murmurs who seem to have no discomfort whatever. In many cases the announcement of the discovery is received with surprise and incredulity.

Revision of old cases is now done regularly, and we have case notes of 622 children with organic heart disease (valvular) which have been under observation for several years. More than half (55 per cent.) have never at any time during the period of observation, or so far as we know before, suffered from their ailment. A few of them have other ailments such as marked anæmia, phthisis, etc., not directly connected with their hearts, but no discomfort referable to the heart disease. Every variety of murmur is represented in this non-complaining group—congenital murmurs at pulmonary, mitral, and tricuspid valves, and mitral regurgitant, mitral stenotic, double mitral, aortic, among the post-natal cases.

Even this proportion of 55 per cent. free from complaints of any kind hardly does justice to the facts; it leaves the picture still too gloomy. Every complaint mentioned by a child or put forward by the parent or teacher which could by any stretch be ascribed to the heart is always counted in as if it were due to the heart alone, but in fact a large number of the complaints are trivial and ambiguous—"occasional malaise," "readily tired," and so forth. The complaining children out of this large group of 622 cases numbered 278, and the complaints were: Malaise alone, 145; cyanosis, 57; dyspnœa, 50; pain over heart, 30; headache, 20; fainting attacks, 17; œdema, 8; palpitation, 4; sickness, 3; sleeplessness, 2; clubbed fingers, 2; catarrhs, possibly due to venous stasis, 2; heart failure and loss of compensation, 2; epistaxis, 1; cough on exertion, 1; giddiness, 1. In a few cases the same child has two of these symptoms.

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* This number consists of the above 674 organic cases minus a few but not all of the congenital cases, and plus a few cases of non-routine children specially presented because they had heart disease.

B. Functional Cases.—The group of functional cases, as already implied, is indefinitely more numerous than the organic. The signs and symptoms are most various; in fact, there is scarcely one of the deviations from the normal type of heart action referred to in an early paragraph of this paper which might not be safely regarded as functional if concurrent facts suggested it.

Dilatation.—Simple dilatation is meant without any obvious signs of organic disease. The fact of dilatation is indicated by the projection of the apex beat well beyond the left nipple line and by increase of the cardiac dull area in the same direction or to the right of the right edge of sternum. The absence of a massive heaving pulsation and of any organic murmur indicative of stenosis is commonly the ground on which we presume to say the case is not one of hypertrophy.

The area of cardiac dulness and the position of the apex beat are apt to vary from visit to visit in these cases. The pulse may be feeble or irregular, and there may be soft murmurs and bruits about the heart; but also there may be no such signs. The child is generally of a delicate, nervous type.

The number of cases of dilatation without obvious organic cause is not inconsiderable. Among 54,384 children, being a large portion of the routine children above mentioned, with the addition of a few hundreds of children "specially presented" by head teachers, there were 314 cases of simple dilatation (not hypertrophy), or 0·57 per cent.

The difficulty of feeling sure that a given case of dilatation has not behind it some true organic disease must always be allowed for. Out of 53 cases of supposed simple "functional" dilatation discovered among the routine children examined in 1911, which cases we were able to follow up at repeated visits until 1914, 10, or about 19 per cent., were in the latter year regarded as genuine organic cases. Whether the organic features were present in 1911, but latent, or whether they had come on since, it was not always possible to say, but very likely in some cases they were present from the beginning.

The conceivable causes of simple dilatation are (1) a slight and passing toxæmia (such cases, if we could only recognise and define them, ought not, strictly speaking, to be called "functional"; they are disease lesions); (2) atony of neuro-muscular structures.

Murmurs and bruits heard over the præcordial area.—Humming, continuous bruits may be heard at the root of the neck or about the sterno-clavicular joints and are, of course, never taken to portend any organic disease. Equally "functional" are taken to be great numbers of gentle, sipping, soughing murmurs resembling interrupted bruits, systolic in time and heard at any of the valvular areas. They are particularly likely to be found at the pulmonary area. They are commonly thought to be present in the anæmic, but a surprising number of well-coloured children have them in typical form. One comes to note them and dismiss them from mind by an act of intuition, and it is not always easy to explain why one has so curtly dismissed them. If the murmur is soft, gentle, and little audible, if it is in the pulmonary area, if it is accompanied by similar soft murmurs at other valvular areas, if it is present at one inspection and not at the next, these circumstances one or all create a bias in favour of the "hæmic" or "functional" view. But, doubtless, mistakes must be sometimes made.

Accentuation and reduplication.—Accentuation of the second sound, mainly the pulmonary, is very common in childhood, as also is a reduplication of the first sound heard at the apex, converting "lub-dupp" into "thrub-dupp."

Unusual rate of heart-beat.—This may take the form of a somewhat regular alternation of a few rapid beats and a few slow ones (Mackenzie's "youthful type of irregularity"); or it may be the slipping of a beat, intermittency; or the intercalation of an unexpected beat between two normally spaced beats; or it may be the occurrence of an unusually forcible beat now and then.

Unusual method of impulse.—Instead of the normal light touch and go under the extended hand we may have a fuller and wider impulse, or a kind of slapping beat, or a diffused undulating beat short of the heavy massive heave of the hypertrophied heart; and it often has a hurried, excited character, suggesting over-action and "forcible feeble."

Although we cannot in many cases clearly imagine the mode of production of many of these deviations from the normal which we class as functional, and to that extent our ideas of their ultimate causes must also be vague, yet one derives a strong impression from work among school children that in nearly all cases functional cardiac disorder is connected with that freakish instability of nervous system which is such a prominent factor in young life.

No paper on heart disease in elementary school children would be complete without a reference to a widespread condition (in its milder phases) commonly spoken of as "feeble circulation." It is really a local cyanosis of the extremities, cheeks, ear tips, etc. When strongly marked, the hands look as if they had been dipped to the wrists in some purple dye. Quite recently I came across a reference to a passage in Miss Ferriar's 'Marriage,' in which she speaks of "five awkward purple girls"; evidently they were cases of "feeble circulation," which has a marked tendency to run in families.

The condition has nothing whatever to do with feebleness of the central organs of the circulation; it is a vasomotor phenomenon and is apparently allied to Raynaud's disease; at any rate it would be possible to produce from among our Staffordshire school children a series of cases leading up from the lightest cases indistinguishable from "cold hands" (even when the day is not cold), by indefinite steps to a dangerous-looking local cyanosis and finally to true Raynaud's disease with gangrene, of which we have two or three cases at present on the rolls of our schools.

CONGENITAL TUBERCULOSIS—A SURVEY.

By F. Parkes Weber, M.A., M.D., F.R.C.P.London.

(*Continued from p.* 332.)

Sitzenfrey, in 1909, produced an elaborate monograph on "Congenital Tuberculosis with special consideration of Placental Tuberculosis." It included a review of the previous literature of the subject, to which I am much indebted. He himself investigated twenty-six placentas of tuberculous mothers, as well as the fœtal membranes, the umbilical cords, and the newly born infants themselves, if they came to the post-mortem room. In seven of the twenty-six cases tuberculous changes or tubercle bacilli were discovered in the placenta or decidua vera, namely, as follows: In three cases there were tuberculous lesions in the placenta; in one case there was a condition of endometritis decidualis tuberculosa, affecting the decidua vera and the decidua reflexa; in one case there was tuberculosis of the umbilical cord (the first recorded case with that lesion); in one case tubercle bacilli were detected in a vein of the decidua basalis and in a film of placental pulp; in the last of the seven positive cases tubercle bacilli were shown to be present in the placenta, in blood from the umbilical vein, and in the fœtus itself, namely, in the capillary blood-vessels of the liver, in a retroperitoneal lymphatic gland and in a mesenteric lymphatic gland.

The localisation of the tubercle bacilli in the last-mentioned case in the fœtal liver and lymphatic glands corresponded to observations of Kockel and Lungwitz and others on fœtal tuberculosis in calves, and to the findings of Schmorl and Kockel in a human fœtus, and F. Lehmann in a premature child that died one day after birth.

Sitzenfrey further noted that A. Gärtner had already suggested in 1893 that the embryonic cells and well-developed lymph-paths of the fœtus allowed the easy passage of tubercle bacilli from the blood-vessels and organs to the lymphatic glands. This suggestion of Gärtner was confirmed by the above-mentioned observations of Kockel and Lungwitz (1894) on fœtal tuberculosis in calves.

According to Sitzenfrey, the disease in the offspring seemed to some extent to be proportionate to the tuberculous changes in the placenta. In a case in which the placenta was full of miliary and larger tuberculous foci the child died four hours after birth. In a case with relatively few placental tubercles the child died, when three months old, from chronic pulmonary tuberculosis and bilateral tuberculous pleurisy. In another case in which only one tuberculous focus could be detected in the placenta the child had so far (first months of life) remained alive and well. The discovery of tuberculous changes in the placenta was therefore not necessarily a sign that the child would show signs of tuberculous infection during the first months of extra-uterine life.

In regard to the pathological changes in tuberculous placentas, Sitzenfrey laid special stress on the so-called "white infarcts" forming favourable ground for the development of tubercles.

Besides the already well-recognised way in which the fœtus might become infected, that is to say, through its blood-stream from a placenta in which one or more tuberculous foci have "grown through" from the maternal to the fœtal structures, Sitzenfrey explained two other methods by which the fœtus could possibly become tuberculous. He pointed out that chronic engorgement of the villous capillaries might lead to their rupture into the maternal intervillous spaces; and that lowering of blood-pressure in the villous tufts might permit the entrance of maternal blood, and allow the transference from the maternal to the fœtal circulation of any tubercle bacilli which at the time happened to be free in the maternal blood-stream. His second suggested method was that tuberculous foci, localised in the decidua vera, might penetrate the amnion, infect the liquor amnii, and thus give rise to intra-uterine infection of the fœtus with tubercle bacilli.

In regard to this last suggestion Sitzenfrey had been more or less anticipated by F. W. Andrewes, who, in January, 1903, when showing a specimen from the museum of Saint Bartholomew's Hospital, at a meeting of the Pathological Society of London, suggested that prenatal tuberculosis might in some cases possibly be caused by the fœtus swallowing liquor amnii containing tubercle bacilli derived from a disintegrating lesion of the placenta. It had been already established that the entrance of amniotic fluid by the mouth might occur during intra-uterine life. The specimen exhibited by Andrewes consisted of the thoracic viscera of an infant that had died shortly after birth. The tracheal and bronchial glands were enlarged and caseous, and the lungs contained numerous miliary tubercles. The glandular lesions, according to Andrewes, must evidently have arisen long before birth.

Schlimpert (1910) gave the results of his examination of placentas from tuberculous women. Seven placentas were carefully and systematically examined. In five of them histological tuberculous changes were discovered and tubercle bacilli were likewise found present. In one of them tubercle bacilli were detected without any histological tuberculous changes. He pointed out that the presence of tuberculous changes in the placenta should be regarded as a reaction of the maternal tissues against the infection with tubercle bacilli.

Novak and Ranzel (1910) made a study of the placentas of tuberculous women, and by the help of the antiformin method they were able to demonstrate the presence of tubercle bacilli in the placenta in four out of six cases. The first of the four positive results was obtained with the placenta from a woman with advanced pulmonary and peritoneal tuberculosis. The child was born during the ninth month of pregnancy and appeared healthy. In the second positive case a remarkable feature was that the mother had signs of only slight tuberculosis of the apex of the (right) lung, withou sputum, and the puerperium ran a normal course, without fever. In the third positive case the pregnant woman suffered from very severe tuberculosis of the lungs, etc., and labour was induced at the fourth month. In the fourth case the mother suffered from miliary tuberculosis, dying very soon after the birth of an apparently healthy child.

A. Dietrich (1912) described the case of a servant-girl, aged 21 years, who died 3 days after childbirth, with disseminated miliary tuberculosis, apparently caused by the entry of tubercle bacilli into the blood-stream from tubercles in the wall of one of the right pulmonary veins. By the antiformin method tubercle bacilli were detected in the placenta. The child was removed from the mother directly after birth, and at first seemed to be healthy, but after nearly three months died with general tuberculosis. Dietrich regarded the child's case as one of *late* congenital tuberculosis in which the infection took place during labour (*intra-partum*), tearings or squeezings of the tuberculous placenta doubtless leading to the entry of tubercle bacilli into the fœtal blood-stream, in a way similar to that suggested by A. Gärtner, H. Rietschel, A. Sitzenfrey, Pankow, and others.

A possibly similar case was described by G. Repaci, of Milan (in 1913), in which the child at birth was well developed and of normal appearance, but died on the thirty-ninth day of extra-uterine life with general miliary tuberculosis.

Perhaps the case described by Grulee and Harms (1915) might be explained in the same way. The child was apparently healthy at birth, but 15 hours after birth developed irregular pyrexia, which continued till its death (on the eleventh day) with generalised miliary tuberculosis, chiefly affecting the lymphatic glands near the liver, the liver itself, and the spleen. There was nothing pathological known in regard to the mother, excepting old tuberculous disease of the hip-joint, supposed to be healed. But cases like those of Repaci and of Grulee and Harms cannot be regarded as of *proved* congenital origin; nor of course can that of a child (recorded by H. Barbier, in 1915), who died at the age of 3½ months, and was found to have, besides tuberculous broncho-pneumonia, unusually well-marked miliary tuberculosis of the liver; that organ was literally "stuffed" with miliary tubercles. Another doubtful example is that recorded by Bonnet (1898), in which the child of a gravely tuberculous woman died about three months after birth, with tuberculosis of lungs, intestine, mesenteric glands, liver, spleen, and kidneys.

H. Rollet (1913) recorded a remarkable case of intra-uterine miliary tuberculosis. The child died two days after birth (at full term) and was found to have generalised miliary tuberculosis, the miliary tubercles being especially numerous in the liver. There were caseous changes in many lymphatic glands in the thorax and abdomen, notably those at the hilus of the liver and in the mesenteric glands. The mother, aged 26 years, died from miliary tuberculosis about two weeks after childbirth, but no evidence of tuberculous infection of her uterus or of a fragment of retained placenta could be detected until tubercle bacilli were demonstrated in the latter, by the antiformin method.

Harbitz, of Christiania (1913), described the case of a child who died of pulmonary tuberculosis 25 days after birth. He regarded it it as a case of congenital tuberculosis, in which the tuberculous infection of the fœtus occurred during labour (*intra-partum*), in the way suggested by A. Gärtner, H. Rietschel, A. Sitzenfrey, etc. The mother, aged 26 years, had miliary tuberculosis, and died 28 days after childbirth. There was old tuberculous salpingitis. In the uterus, at the site of the placenta, there was a condition of tuberculous endometritis, so that during labour the fœtus might easily have been infected by the entry into its blood-stream of tubercle bacilli from a ruptured tuberculous lesion in the placenta. The placenta itself was unfortunately not microscopically examined.

Péhu and Chalier (1908, 1914, and 1915) have analysed the whole subject of human congenital tuberculosis. They admit 51 published cases as conclusively genuine and as satisfying all critical demands. In all the cases that they admit the mothers have had grave exacerbations of tuberculosis and they regard it as plausible to assume that they all had acute generalisation of the disease. According to them and most other writers the father plays no part in congenital tuberculosis, all the cases being the result of a transplacental "heredo-contagion," which latter, however, in comparison to tuberculosis acquired after birth, is excessively rare.

In the infected fœtus or infant there are generally well-marked tuberculous lesions to be seen in the organs, but in some cases, in spite of no pathological-anatomical changes having been found, the fœtal blood contained virulent tubercle bacilli. This latter condition is the "status bacillaris" of Honl, and is to be distinguished from the actual presence of tuberculous lesions in the fœtus. The authors associate it with the occurrence of a terminal miliary tuberculosis in the mother, but surely the date and extent of the fœtal infection have likewise much to do with it.

The authors say that tuberculosis of the placenta occurs in 45 per cent. of tuberculous mothers (according to F. Lehmann), but that microscopical evidence of the placental infection may require much searching. Apparently placental tuberculosis does not occur till the fourth month of pregnancy (*cf.* one of the cases recorded by Novak and Ranzel, in 1910).

In connection with this, Pankow's work (1910) is of special interest. In twenty pregnant tuberculous women artificial abortion was brought about in the third to fourth month of pregnancy, and from all these cases fœtal pulp was injected into guinea-pigs, without giving rise to tuberculosis. In the case of two premature children of tuberculous mothers, at the seventh to eighth month of pregnancy, the guinea-pig inoculation test also proved negative in regard to the presence of congenital tuberculosis. Pankow expressed the opinion that many of the cases of congenital tuberculosis had arisen during labour, the tuberculous lesions in the placenta becoming ruptured by the labour "pains" (uterine contractions), and the transference of tubercle bacilli from the mother to the fœtus being thereby facilitated.

In regard to the time at which tuberculosis of the placenta occurs one may note a case recorded by Dufour and Thiers (1913), in which the placenta appeared to be healthy though there was evidence of tuberculous infection in the fœtus. A tuberculous young woman with hæmoptysis and meningitis, aged 19 years, died in the third to fourth month of pregnancy. The placenta appeared to be healthy, and examination for tubercle bacilli in it gave negative results; but the peritoneum of the fœtus contained fluid, animal-inoculation with which gave rise to tuberculosis.

In regard to the possibility of "intra-partum" infection of the fœtus or child with tubercle bacilli from the placenta, H. Rietschel's paper (1909) should be compared, and likewise the views of A. Gärtner (1893). With reference to these views, one might allude to the case of a child, aged 6 weeks, shown, in 1913, by M. Zarfl, at the Vienna Gesellschaft f. inn. Med. u. Kinderheilk. Von Pirquet's cuti-reaction for tuberculosis was positive on the seventeenth day of life, and increasing clinical signs of tuberculosis developed. Von Pirquet, who agreed with the diagnosis of congenital tuberculosis, said that in this case a positive tuberculin reaction had been obtained at an earlier age than in any other reported case. The case nevertheless can hardly be accepted as a proved one of congenital tuberculosis, for it might possibly have been acquired after birth.

Weller (1916) has reported two cases of miliary tuberculosis of the placenta, with latent tuberculosis in the mothers. In one of the mothers signs of ordinary pulmonary tuberculosis developed later on. The questions arising from the study of such cases are of considerable importance. In most cases of placental tuberculosis the mother has been suffering from advanced or miliary tuberculosis. Weller naturally refers to a case, somewhat similar to his cases, published by A. S. Warthin in 1913, under the heading, "Miliary Tuberculosis of the Placenta, with Incipient Pulmonary Tuberculosis of the Mother becoming Latent after the Birth of the Child." (*Cf.* also one of the cases recorded by Novak and Ranzel, in 1910.) It seems to me that we may well suppose that occasionally a mother with some form of chronic, and perhaps even latent, tuberculosis, may suffer from a temporary condition of tuberculous "bacillæmia" during pregnancy, without succumbing; for, probably, conditions of temporary tuberculous "bacillæmia" are not exceedingly rare in the subjects of chronic tuberculosis, apart from pregnancy.

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